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ABSTRACT

This document, section 2 of a three-part study, reports on an effort to determine willingness of business and vocational/industrial teachers in Manitoba to update their professional skills and knowledge. One hundred sixty-three (out of 244) teachers sent usable returns to a survey to determine the extent to which they have obtained updating experiences, teachers' obligations to update, preferences for time and frequency of updating, incentives, and the importance of selected institutions/methods. Findings showed 70 percent of business teachers and 92 percent of vocational/industrial teachers had completed work experience before commencing teacher education programs. Fifty-nine percent of the teachers indicated no business and industrial work experience since beginning teaching. Almost two-thirds said work experience was valuable since it helped them become more effective teachers. Eighty-eight percent felt a professional obligation to update skills and knowledge continually; one-third of that group maintained that updating should occur at least yearly. Educational leave with guaranteed position/salary and school inservice days were recommended as times for updating. A majority supported voluntary updating for retention of teaching certificates, with educational leave and credit towards a degree/certificate as major incentives. Industry- and business-sponsored programs for updating were strongly supported. (Appendixes include instruments and teacher comments.) (YLB)

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MANITOBA BUSINESS AND VOCATIONAL/INDUSTRIAL SECONDARY TEACHERS' RESPONSES TO UPDATING OF THEIR PROFESSIONAL/TECHNICAL SKILLS AND KNOWLEDGE

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February, 1985

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This study expresses the views of the business and vocational/industrial teachers who participated as well as those of the authors of the report and not necessarily those of the Manitoba Teachers Society.

TABLE OF CONTENTS

TABLE OF CONTENTS ii

LIST OF TABLES v

PREFACE vii

CHAPTER

I. THE PROBLEM 1

Introduction
Statement of the Problem
Purpose of the Study
Goals and Objectives
Need for the Study
Definition of Terms
Limitations of the Study
Delimitations of the Study

II. REVIEW OF RELATED LITERATURE 9

Updating Teacher Effectiveness
Reasons for In-Service Continuing Education
Role of Educational Agencies in Teacher Updating

Description of Successful Updating Ventures:

- Skills Updating for Business Education Teachers, Using the Electronic Typewriters, Models ET221 and ET225 Provided by Olivetti Canada Limited;
- Saturday In-Service Days - Microcomputers in Business and Vocational Education and Information Systems/Word Processing Applications;
- Two Day Workshop - Introduction to Computer Numerical Control (CNC) Lathe and Milling Machines;
- Updating Business Skills on the Dedicated Word Word Processing System in the Manitoba Legislative Center;
- Cooperative Industry/Business/Education Project - Information Management Division, Department of Industry, Trade & Technology and Business Education Section, Faculty of Education, University of Manitoba;

III. RESEARCH METHODS AND PROCEDURES 23

Sample Design
Questionnaire Design

IV. ANALYSIS OF DATA 27

Introduction
Organization and Presentation of Findings

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS . . . 71

Summary
Conclusions
Recommendations

APPENDICES 78

A. Microcomputer & Word Processing Workshops - Information Sheet

B. Microcomputer Workshops for Business/ Vocational Teachers

C. Information/Word Processing Workshops for Business/Vocational Teachers

D. Business/Vocational Education Evaluation Form

E. Computer Numerical Control (CNC) Lathe and Milling Machines Workshop

F. CNC Hardware/Software/Workshop Evaluation

G. Certificate of Appreciation

H. Questionnaire Instrument

I. Instructions for Panel of Experts

J. Covering Letter to Teachers

K. Comments from Teachers About the Effectiveness of Pre- and/or Post-Training Work Experience

L. Comments from Teachers About their Professional Obligation to Continually Update their Skills and Knowledge

M. Teacher Comments About the Frequency and Length of Time Teachers Should Contribute to Updating of their Skills and Knowledge

N. Comments from Teachers When Asked to Identify Periods during the Year When Professional/ Technical Updating Should Take Place

O. Teacher Comments About Whether Professional/ Technical Updating Should be of a Voluntary or Mandatory Nature to Retention of a Teaching Certificate

P. Comments from Teachers About the Types of Incentives that Might be Made Available to Encourage Teachers to Update their Professional/Technical Skills and Knowledge

BIBLIOGRAPHY. 135

LIST OF TABLES

Table		Page
I	Professional Qualifications of 163 Manitoba Business and Vocational/Industrial Secondary School Teachers Who Participated In The Professional/Technical Updating Research	20
II	Professional Qualifications of 163 Manitoba Business And Vocational/Industrial Teachers According To Their Degree And Certificate/Diploma Combination	23
III	Total Number Of Years Of Teaching Experience Of 163 Participating Manitoba Business And Vocational/ Industrial Teachers	25
IV	Number Of Years Of Business Or Vocational/Industrial Teaching Experience Of 163 Manitoba Teachers	27
V	Number Of Manitoba Business & Vocational/Industrial Teachers Who Obtained Business Or Industrial Work Experience Before Commencing Their Teacher Education Programs	29
VI	Principal Types And Length Of Pre-Training Work Experience Obtained By 62 Manitoba Business Teachers	31
VII	Principal Types And Length Of Pre-Training Work Experience Obtained By 68 Manitoba Vocational/Industrial Teachers	33
VIII	Number Of Manitoba Business & Vocational/Industrial Teachers Who Obtained Business Or Industrial Work Experience Since They Commenced Teaching	35
IX	Principal Types And Length Of Work Experience Obtained By Business Education Teachers Since They Commenced Teaching	37
X	Principal Types And Length Of Work Experience Obtained By 28 Manitoba Vocational/Industrial Teachers Since They Commenced Teaching	39
XI	Relationship Of Work Experiences To Teacher Effectiveness As Expressed By 130 Manitoba Business & Vocational/ Industrial Teachers Who Obtained Such Experiences	41
XII	Teacher Obligations Towards Continual Skill And Knowledge Updating As Expressed By 163 Manitoba Business And Vocational/Industrial Teachers	43
XIII	Frequency Of Professional/Technical Updating Recommended By 155 Manitoba Business And Vocational/Industrial Teachers	45

Table		Page
XIV	Length Of Professional/Technical Updating Recommended By 143 Manitoba Business And Vocational/Industrial Teachers Who Recognize And Support This Professional Obligation	47
XV	Time Period For Professional/Technical Updating Recommended By 163 Manitoba Business And Vocational/ Industrial Teachers	49
XVI	Significance Of Professional/Technical Updating To The Retention Of A Teacher Certificate As Expressed By 163 Manitoba Business And Vocational/Industrial Teachers . .	51
XVII	Incentives To Encourage Professional/Technical Updating Recommended By 163 Manitoba Business And Vocational/ Industrial Teachers	53
XVIII	Degree Of Agreement/Disagreement Of 89 Manitoba Business Education Teachers To Suggest Primary Methods Of Updating Business And Vocational/Industrial Teachers . . .	55
XIX	Agreement/Disagreement Of 89 Manitoba Business Education Teachers To Suggested Primary Methods Of Updating (Collapsed Categories With Percentages)	57
XX	Agreement/Disagreement Of 74 Manitoba Vocational/ Industrial Teachers To Suggested Primary Methods Of Updating Business And Vocational/Industrial Teachers . .	59
XXI	Agreement/Disagreement Of 74 Manitoba Vocational/ Industrial Teachers To Suggested Primary Methods Of Updating (Collapsed Categories With Percentages) . .	61

Preface

This volume is Section II of a three-part study on the professional/technical updating of business and vocational/industrial teachers in Manitoba. More specifically, this section of the study determined the willingness of this Province's business and vocational/industrial teachers to update their professional skills and knowledge.

Section I identified provincial business and industrial establishments willing to receive business and vocational/industrial teachers who express an interest in updating their professional/technical skills and knowledge.

Section III of this study will examine the feasibility of establishing a computerized information directory to match interested business and vocational/industrial teachers with business and industrial establishments willing to provide internship sites for updating.

CHAPTER I

THE PROBLEM

Introduction

One of the major challenges facing vocational education today is to close the serious gap that has existed and continues to exist between classroom theory and practice in the real world. Business and vocational/industrial teachers have been criticized for failing to provide the kind of education that was relevant to the needs of employers in business and industry. Today this unhappy situation continues; criticism is directed towards our teachers - that they are "short-changing" students who wish to acquire the necessary training to compete effectively in the world of work.

This need for a more effective educational system is made even greater by the rapidly automating economy. It is the responsibility of educators to devise different and more effective means by which business and vocational/industrial teachers will have the opportunity to continually update their professional backgrounds in order to provide relevant information when teaching their classes.

A significant part of this responsibility for updating rests on the business and industrial teachers in our province. They have a commitment to insure that their students are adequately prepared for the world of work. Instructors who are up-to-date are crucial to the continued delivery of quality education in the vocational areas. The quality of business/industrial education is affected adversely when outdated content and methods are transmitted under the guise of relevant and current instruction.

Vocational teachers cannot rely on their one-time professional training period experienced during teacher training. Others who enter teacher education with a successful apprenticeship program should be aware that, although their previous training was of high quality, time dilutes its effectiveness. For both groups, periodic updating of skills and knowledge is imperative if the vocational teacher is to speak with authority in the classroom and provide the effective means of meeting the employment demands of business and industry.

Statement of the Problem

The problem of this study was to determine the willingness of business and vocational/industrial teachers in Manitoba to update their professional backgrounds so as to more effectively provide the skills and knowledge needed to meet the employment needs of their graduates.

Purpose of the Study

The purpose of this study was to report the findings of a survey of Manitoba vocational teachers. The study was designed to determine these teachers' reactions to the perennial problem of updating teacher skills and knowledge.

More specifically, the study:

a. determined the extent to which business and vocational/industrial teachers in Manitoba have obtained updating experiences before commencing their teacher education and since they began teaching.

b. examined the Manitoba teachers' obligations to continually update their skills and knowledge.

c. determined the period during the year, the length of time and the frequency that business and vocational/industrial teachers would contribute towards skills and knowledge updating.

d. identified the types of incentives that might be made available to teachers in order to encourage them to undertake professional updating.

e. examined the importance of selected institutions/methods that might be instrumental in the updating of vocational teachers.

Goals and Objectives

The primary goal of the proposed project was to collect and analyze appropriate information about Manitoba business and vocational/industrial teachers that could be used to guide the development and implementation of an automated internship information system for these teachers in our Province.

In order to accomplish this goal, the following objectives were set forth for this section of the project:

1. To collect information regarding the extent to which current business and industrial/vocational education teachers are updating themselves;
2. To identify business and vocational/industrial teachers' willingness to update their skills and knowledge.

Need for the Study

Past review of literature and informal investigation of the current practice in Manitoba has indicated that business and vocational/industrial teachers have not remained up-to-date with new technical innovations in their respective fields. National leaders in the field have spoken often on the need for periodical updating of teacher skills and knowledge.

Today there does not exist a central organization mandated to facilitate the identification of proper internship sites. Nor does the profession have a definitive, formal list of interested business and industrial establishments who are prepared to collaborate in a cooperative effort of teacher updating. Such information would be of considerable use to business and vocational/industrial teachers in Manitoba who desire this type of experience but are unaware and ignorant of the methods by which such firms could be contacted and served.

The Department of Education in Manitoba currently has in operation professional development vocational workshops and seminars as does the professional teacher organizations through the Manitoba Teachers Society. However, these organizations do not have a structured program that might deal with internship opportunities from business and industry or requests for such opportunities from interested teachers.

The reasons, identified above, provided the initiative for the Business and Vocational/Industrial Sections, Department of Curriculum: Mathematics and General Science, Faculty of Education, to undertake this series of studies in order to obtain relevant data from both interested

business and industrial establishments and business and vocational/ industrial teachers, in order to establish an automated internship information system that would meet the needs of these Manitoba teachers.

Definition of Terms

Bachelor of Education Degree (New):

A first degree awarded to a candidate who completes successfully, the approved 4-year professional education program currently being offered in the Faculty of Education, University of Manitoba. Candidates are admitted into the program with the Grade XII university entrance qualification.

Bachelor of Education Degree (Old):

A second degree that was awarded to candidates who were already university graduates, holding degrees in Arts, Science, etc. The program consisted of a further two years/period of professional training. This degree program was terminated in October, 1981 and replaced by the Bachelor of Education (New).

Business Education Special Certificate:

A Manitoba teaching certificate awarded to candidates who successfully completed a Department of Education-approved professional program in business teacher education. This special certificate was replaced by the Professional Certificate in 1981.

Business Teacher:

A teacher formally trained to provide instruction in the business and office occupation areas. Such instruction provides the skills, knowledge, attitudes and understanding required by future citizens as consumers and/or producers of business goods and services.

Internship:

Structured, work-place conducted experiences supervised by teacher education departments, representatives from Departments of Education and/or business and industry, and of varying lengths of time. These realistic experiences provide the teachers with the opportunity to acquire emerging technical knowledge and information.

Pre-Masters Program:

A graduate program of a minimum of twenty-four credit hours of study and consisting of both professional education and academic courses. Candidates may apply for admission under one of two categories:
(1) Students must possess a valid teaching certificate with either a four-year Bachelor of Education degree or a three year degree (B.A., B.Sc., etc) plus one year of teacher education or their equivalent;
(2) An undergraduate degree from an accredited institution based on at least three years of study, such as: B.A., B.Sc., B.S.W., B.Com., B.ScN., etc.

Professional/Technical Updating:

A mode or vehicle which provides vocational/industrial and business teachers with the opportunity to modernize their professional backgrounds and remain current in their major fields.

Updating:

Term used to identify the opportunity available to vocational/industrial and business education teachers who wish to undergo work experience periods in business and industry in order to make these particular teaching skills and knowledge more current so as to present to their students a correct indication of present day business and industrial procedures.

Vocational/Industrial Special Certificate:

A Manitoba teaching certificate awarded to candidates who successfully completed a Department of Education-approved professional teacher education program in the vocational/industrial areas. The Special Certificate was replaced by the Professional Certificate in 1981.

Vocational/Industrial Teacher:

A teacher formally trained to provide instruction in trade and industrial occupations. Such instruction provides the skills, knowledge, attitudes and understanding required by future workers employed in these occupational areas.

Limitations of the Study

This study was limited by:

1. The extent to which the requested data was accurately supplied and questions correctly interpreted by the participating teachers in this study.
2. The effectiveness of communication with the participants by letters sent to their schools because individual personal addresses were not available to the researchers.

Delimitations of the Study

This study was delimited in the following manner:

1. The population of this study consisted of secondary business and vocational/industrial teachers, currently teaching in Manitoba schools at the time the study was conducted;

2. Those business and vocational/industrial teachers whose teaching duties were primarily in their respective areas (business education or industrial/vocational education) as determined from the information gleaned from the computer printouts obtained from the Department of Education.

CHAPTER II

REVIEW OF RELATED LITERATURE

Updating Teacher Effectiveness

Updating teacher effectiveness is fraught in a sea of confusing terms and terminology. Professional education literature speaks of Professional Development, In-service education, Continuing Professional Education, Staff Development, Pre-service education, On-going development of teachers, Work experience, Professional updating/upgrading, to mention only a number. The suggested methods by which this education/development/ updating of teachers might be brought about include conferences, internships, workshops, school visits, demonstrations, staff exchange programs, panels, buzz sessions, field trips to business and industry and multi-media presentations.

While keeping in constant focus the major purpose of this exercise, which is updating teacher effectiveness via the acquisition of emerging technical knowledge and information, an attempt is made to bring some order and a process of categorization to this field of professional development and the numerous methods by which this might be brought about.

A simple, but effective definition of In-service education is: "structured activities designed to improve professional performance." The term development, in educational terms, is "to bring our teaching profession to a fuller, greater or better state of preparedness in order to keep abreast of societal changes."

One might ask: Is the present interest in Professional Development/ Continuing Professional Education/In-service Education a passing Educational

fad that has come and will go as other such fads have done in the past? In reviewing the last 20-25 years of educational history, one notes the introduction of the concept of team teaching, new mathematics and physics, open area classrooms, instructional TV, yet these movements have come and gone, and very little remains today. Certainly, the traditional model of Inservice education has not shown much staying power and success. A critical examination of this area is necessary with the hope that a better product will emerge that might more effectively meet the needs of teachers who are to benefit from such experiences.

But all past activity has not been in vain. Research in In-service education has revealed a number of successes. Such research indicates that individualized, one to one, in-school, on-site tutoring is successful, that programs developed by the teachers themselves have proven to be amongst the most successful and that longer term, rather than short term in-service experiences have had a greater impact as change agents in the school and have led to mutually successful teacher/pupil interchange.

Educators must not rest on these successes, but continue to search for better and more effective ways of serving the practicing teacher. Principal questions must still be asked: What are the current in-service needs of teachers? What methods should be employed to identify these needs? Questions relating to the implementation of programs for maximum effectiveness concern themselves with the timing of in-service programs, where such programs should be conducted and by whom. Other questions center around the form of the program to be conducted, whether the format be that of workshop, lecture, simulation or on-site experience, as well as the session lengths of these programs.

Reasons For In-service Continuing Education

There are a number of reasons why in-service continuing education is receiving increased attention in vocational/industrial and business education circles. Firstly, there is a rapid growth in the number of people involved in such education, despite the general decline in total school attendance. Tightening budgets have resulted in increased attendance and emphasis on in-service education. The world of work is changing and thus vocational/industrial and business education must attempt to keep pace with these changes - changing job requirements in industry and office occupations dictate the need for professional updating in order to increase the vocational competency of occupational teachers. Professional teacher organizations are placing increased emphasis on continuing professional education, recognizing that such experiences are essential to the teacher's professional growth and performance in the classroom.

Although a relationship exists between pre-service and in-service education for teachers, a time and sequence difference distinguishes these two terms. Pre-service education, no matter how excellent it may be, serves primarily as preparation for entry into the teaching profession and cannot be considered sufficient experience for the entire career duration of business and vocational/industrial teachers. No matter the length or quality of such an introduction to professional preparation, subsequent changes in business and industry make periodic updating essential. Professionally, it is the duty of vocational teachers to keep abreast of changes, for what they teach must be current and marketable.

In-service continuing education goes hand in hand with one's teacher education program, complementing and strengthening the teacher's

preparation. Vocational teachers can speak positively about the quality of current teacher education programs but these programs begin to lose their currentness as soon as their study has been completed. A quality in-service program is essential to the development of the teacher's continued professional growth and performance in the classroom.

Inservice education must emphasize the needs and interests of teachers, particularly as perceived by the teachers themselves. Professional development must be a part of the real issues that teachers grapple with daily. Attention should be paid to the needs, preferences and requirements as outlined by teachers. In the present professional climate the concept: 'This is good for you; therefore you will do it' just will not work. One cannot improve education by mandating from above. The imposition of in-service activites on large group of educators, without bringing them into the planning and implementation of these programs, does not guarantee an improvement in the quality of education. Active and voluntary participation by teachers in their continuing education activities is vital to a worthy in-service experience. Teachers can and must accept responsibility for their own learning and teacher identified and perceived needs are an effective starting point for their professional development.

Role of Educational Agencies in Teacher Updating

What should be the role, then, of teacher education institutions, school boards, the school administration and the Department of Education? Teacher education institutions share this commitment to continuing study and encourage the professional growth of practicing teachers in a number of ways. A significant number of vocational/industrial and business teachers receive professional development experiences and updating through formal

continued study towards advanced degrees. At the University of Manitoba, undergraduate and graduate courses in such areas as Microcomputers in Business and Vocational Education, Office Automation/Information Systems Applications and High Technology Implications in Vocational Education are scheduled regularly in the late afternoon and evening during the regular sessions and summer periods, to give practicing teachers the opportunity to enrol in new occupational education areas that were not part of their teacher education programs when they were certified to teach.

School boards can assist in professional development of teaching staffs by providing the time and opportunity for continuing professional education to take place. A positive attitude and a supportive climate may not be sufficient. School boards must be supportive of changes and improvements when they occur. If, for example, the school board encourages its vocational teachers to attend professional development sessions with the intention of introducing Information Systems/Word Processing instruction in the business education curriculum, yet make no provision for the expenditure of equipment and/or material when the program is to be introduced, the frustration and stress level of the teachers involved will certainly increase.

One type of professional development/continuing professional education that is unique to business and vocational/industrial education is the professional updating of skills and knowledge through internship periods in business and industry. With the work place becoming increasingly computerized and automated, teachers must be continually current in their knowledge in order that they teach the skills that would result in the gainful employment of their students. How can the educational system

provide these skills, how can vocational teachers prepare students for the world of work if they do not have the opportunity to learn about new procedures and practices used in business and industry? What better way to experience the work world in action than being part of a working team for an extended period of time.

Early vocational teachers may have lacked formal teacher preparation but they did have actual occupational experience since they were recruited directly from the working world. As high school vocational education programs became more established and developed, more and more candidates for teacher education were recruited directly from high schools. Today a significant number of vocational teacher trainees are high school graduates whose programs include short periods of pre-service experience.

Effective vocational teachers require more experience than a one-shot, limited exposure to work reality. Periodic and continuing updating is vital and a requirement for quality vocational education. Teachers who have obtained such periodic experiences return to the classrooms and speak with authority about the relationship between formal classroom learning and the reality of job performance. The world of industry and business and educational institutions cannot afford to ignore each other. The present serious and widening gap must be rapidly closed through effective and organized cooperative ventures. While the gap continues, the school turns out unqualified workers, and both society and the students are cheated. When business and industry are unable to hire qualified personnel, they are forced to mount their own (and expensive) training programs, or be resigned to employ poorly trained workers who perform at marginal levels.

The balance of this chapter describes five successful updating ventures conducted by the Business and Vocational/Industrial Sections of the Faculty of Education in cooperation with business and industry in Manitoba.

Skills Updating For Business Education Teachers, Using The Electronic Typewriters, Models ET221 & ET225 Provided By Olivetti Canada Limited

When the Business Teacher Education Program was established in 1977, a major responsibility was the acquisition of necessary equipment required to mount a viable program. Experience with a selection of current, up-to-date equipment would be crucial to the preparation of vocational teachers. It was found that suitable equipment was costly; besides, once purchased, some of this equipment could quickly become dated and obsolete.

As an alternative method to securing required equipment, it was decided to approach equipment manufacturers and their representatives in Manitoba, to request assistance for our program in the form of loans of selected equipment. One company, Olivetti Canada Limited, responded in a positive manner.

In 1980 and 1981 Olivetti Canada provided our program with an Electronic Typewriter, the ET221 model, during those semesters when the word processing course was mounted. During 1982 and 1983 this company continued this practice, supplying our section with the later model, the ET225. Both models were supplied with manuals designed to assist the student in the operation of the text editor with a minimum of help from an instructor. In addition, the company representative provided us with a copy of a manual prepared by Ms. Margaret Mattison, Business Education Instructor, West Kildonan Collegiate, Winnipeg. Ms. Mattison's student manual consisted of a re-writing of the instructional manual for the ET221, along with student exercises.

Students in the Faculty were assigned periods when they could become familiar with the electronic typewriter and work through the manual on their own time.

Additional student material was prepared in the form of individualized competency-based simulations. Students were to assume that they were employed as word processing specialists (correspondence secretaries) for a Manitoba insurance firm. Their duties consisted of preparing final documents from rough draft copy, preparing form letters by making use of the memory capacity of the machine for letter parts and short reports, as well as logging their work and measuring their on-the-job production. Students found that such real life work experiences proved to be less threatening in a classroom situation than they might be if tested on the job.

Using the text-editor helped the students enhance their keyboarding skills in a number of ways. They were able to produce high-quality, error-free copies from items originally dictated or handwritten, in formatting letters, memos, reports and tables. Each document had to be "proofed", thus students improved their proofreading skills and reviewed their knowledge of standard proofreading marks. As all work procedures in the simulation were standardized, students also had experience in interpreting and following explicit directions.

Olivetti's generosity provided our students with the opportunity to obtain hands-on experience with text-editing equipment that was popular in the business environment. Through this free-loan policy, Olivetti Canada Limited made a significant contribution to Business Teacher Education in Manitoba.

Saturday In-Service Days - Microcomputers in Vocational Education And Information Systems/Word Processing Applications

Since 1982 the Faculty of Education has conducted a number of Saturday in-service sessions in the areas of Microcomputers in Business and Vocational Education and Information Systems/Word Processing Applications in Vocational Education. These workshops were organized as a professional development service in response to requests from Manitoba teachers who were interested in updating their skills and knowledge and to obtain hands-on experience in the educational uses of the microcomputer.

Teachers were informed of workshop dates and venues by notices placed in The Manitoba Teacher, Education Manitoba and MBETA Journals and Newsletters. Initially, the workshops were meant to serve those teachers employed in outlying parts of the Province and who are outside the driving distance of Winnipeg and the evening classes offered by the Faculty of Education. It soon became obvious that another clientele was attracted by these day sessions: non-vocationally trained teachers whose teaching responsibilities included one or more business education courses. These teachers recognized the need of additional updating of knowledge and skills and therefore, were encouraged to attend.

A significant number of the participants in the early workshop sessions were teachers from small high schools and institutions that had not purchased computer hardware. Their prime reason for attending was to enhance their knowledge of microcomputers and make them more cognizant of the types of hardware and software suitable for their schools. A sample workshop announcement form, programmes for Microcomputers in Business and Vocational Education and Information Systems/Word Processing Applications in Vocational Education as well as a participant's evaluation form can be located in Appendix A, B, C, and D.

Two Day Workshop - Introduction To Computer Numerical Control (CNC) Lathe and Milling Machines

An example of a successful updating venture is the two-day workshop "Introduction to the CNC (Computer Numerical Control) Lathe and Milling Machine Workshop" conducted in the Faculty of Education, University of Manitoba. This provincial workshop, organized by Dr. Orest Cap, Coordinator of the Industrial Education Section in the Faculty, was held on Friday and Saturday, November 30-December 1, 1984. (see Appendix E).

The workshop was designed for entry-level training of machine shop operators, set-up personnel, machine mechanics and instructors. Mr. Rae McIntosh, the training instructor on the first day of the in-service, employed the SINGER CNC lathe machine during his presentations. Mr. Alexander Cap and Mr. Victor Koslowsky utilized the York Instrument CNC 932 3-Axis vertical milling machine during the second day of the workshop.

The focus of both workshop days was on programming and application activities. Participants received intensive step-by-step instruction and hands-on training on both CNC machines.

To gain access to this latest equipment, the Faculty of Education, Vocational/Industrial Section, agreed to undertake two types of evaluation of the companies' hardware and software. The first was a participant, in-house evaluation conducted at the end of the second day's sessions. A more detailed evaluation was conducted by Dr. O. Cap and his full-time students in the Industrial Education Section. A copy of the participant evaluation instrument can be located in Appendix F.

Originally, the inservice was to be limited to fifteen participants; however, due to demand for places, twenty-one applicants were accepted. A workshop fee of $40.00 was levied to cover the expenses of the training sessions.

Although participants were not required to have had previous CNC lathe and milling machine experience, a number of experienced machine operators attended. The group included university vocational education students, instructors from secondary and post-secondary institutions, vocational/industrial administrators and representatives from industrial engineering.

In recognition of their service to vocational education in Manitoba, representatives of both machine companies were presented with Certificates of Appreciation by Dean John Stapleton, Faculty of Education (see Appendix G).

Updating Business Skills on the Dedicated Word Processing System in the Manitoba Legislative Building Centre

Business teacher trainees in the Information Systems/ Word Processing Application course spend their laboratory periods acquiring a vocational level skill in text editing/word processing, using the Commodore CBM/PET microcomputers in the Faculty of Education. When the 'WORDPRO' software system is used, these microcomputers become word processors. The Commodore microcomputer is a useful general purpose machine, built for use in all educational applications. WORDPRO is a powerful system, but like other word processing software, it tends to become cumbersome when employed with general purpose microcomputer. Such a system tends to fall short of a dedicated word processing system, a system specially built for Information Processing. A solution was to identify a modern business firm, equipped with dedicated machines, and which would be prepared to accept the students for updating experiences.

In 1981 a chance meeting between Ms. Karn Sandy, Manager of the Manitoba Legislative Building Word Processing Centre and Dr. G. Porozny of the Faculty

of Education resulted in an invitiation for students to visit the Centre and the opportunity for hands-on experience on their modern dedicated system which is housed in the basement of the Legislative Building. Over the years this updating program has developed and provided the students with current business skills that can only be acquired in a real work environment.

Despite a heavy and continuous work load that includes Provincial Government publications and the daily output of the proceedings in the Legislative, the staff in the centre proved to be most cooperative, providing instruction and guidance on the six Wang processors available in the Centre.

The hands-on exposure provided for the students was limited by the busy schedule of the Centre. An alternative method of updating was required. The result was the Cooperative Industry/Education Project of the Information Management Division, Department of Industry, Trade and Technology and the Faculty of Education which is described in the following section.

Cooperative Industry/Education Project - Information Management Division, Department of Industry, Trade & Technology And Business Education Section, Faculty of Education, University of Manitoba

Another example of an updating venture for business education teachers was the cooperative, Industry/Education project of the Information Management Division (IMD), Department of Industry, Trade & Technology and the Business Education Section, Department of Curriculum: M & NS, Faculty of Education during the period January - April, 1984.

The purposes of this project were to enhance the relationship between industry and education, to recommend improvements for the IMD word processing course, and to develop the knowledge and skills of fourth year business teachers.

The organizers of this project were two officers from the Information Management Division, Department of Industry, Trade & Technology: Ms. Karn Sandy, Manager, Office Systems Integration Research and Ms. Rosemary Unrau, Word Processing Technical Specialist, and Dr. George H. Porozny, Faculty of Education, University of Manitoba.

Through this project, the Faculty of Education and the Information Management Division were able to enhance their relationship by benefiting from each other's expertise. The project coordinator, who was a final year student in business teacher education, acted as an external education consultant and developed pedagogically-sound recommendations to improve the IMD word processing course given to Manitoba Provincial civil servants. The Faculty of Education benefited from the opportunity to incorporate IMD research, resource materials and course content into the university programs. The IMD was also seen as a potential source for Faculty of Education advisory committee members providing technological guidance.

To the project coordinator, this internship proved most beneficial. The resource materials acquired and the training received on the IMD's word processing equipment would prove to be invaluable in the curriculum development and the instruction of data and word processing courses.

In order to review the word processing course effectively, the project coordinator participated in these sequential activities:

1. Received hands-on instruction on the Wang Word Processing System at the Manitoba Legislative Building Centre
2. Operated the IBM personal computer.
3. Observed the presentation of Micro Concepts and Lotus 1-2-3 seminars offered at the IMD
4. Previewed word processing video cassettes used as visual aids for the word processing course.

Subsequently, the project coordinator observed teaching-learning strategies used in the word processing course. Presentation techniques

and resource materials were evaluated and the findings presented in a report to Ms. Rosemary Unrau, the IMD office systems technical specialist. Through discussion with Ms. Unrau, recommendations were made towards the improvement of the word processing course.

Because of the very positive results of this project, the on-going involvement of the Faculty of Education and the Information Management Division is a certainty. Business teachers have the opportunity to be exposed to the very latest hardware and software available on the market. The IMD facilities reflect the most current advances in the design of work places with ergonomically-designed equipment. The methods used in the professional development/training of Provincial government employees can be observed. Lastly, and perhaps the single most important advantage for business teachers: the opportunity to be involved with a group of dedicated, hard-working, forward-looking and vibrant staff who are more than willing to train, inform, advise and share with professional colleagues.

CHAPTER III

RESEARCH METHODS AND PROCEDURES

This section outlines briefly the sample design and questionnaire design employed in the collection of the data necessary for the successful completion of this research study.

The researchers' interest in this study grew from a concern about the relevancy of material presented in classroom teaching by business and vocational/industrial teachers. Research review suggested that a significant number of these teachers have not kept up to date with new technical innovations in their respective areas and therefore were not imparting the most current information to their students. Although all vocational education leaders speak out in favour of updating teacher effectiveness, such periodic updating of teacher skills and knowledge is often postponed and not undertaken by the teachers.

Sample Design

A current list of business and vocational/industrial teachers employed in Manitoba high schools during the school year was requested from the Statistics Branch, Department of Education. Upon examination of this list, it was determined that there were 272 business education teachers whose teaching duties were at least 50 per cent in the business education area. The computer list also indicated that there were 216 full-time vocational/industrial teachers employed in Manitoba high schools during this school period. Because of the nature of their teaching duties, there were no part-time vocational/industrial teachers in this group.

It was decided that a representative sample of each population would be selected, and that the sample would be 50 per cent of the population. Therefore, the number of business and vocational/industrial teachers who participated in this study was:

Business Education - 136 (272/2)

Vocational/Industrial Education - 108 (216/2)

A table of random numbers was used to select the sample that would represent the population for each group of teachers.

Questionnaire Design

The questionnaire for this study was designed by students in a graduate vocational education course which was offered during the current university sessions by Dr. George H. Porozny. Class members worked individually and in groups to develop the questionnaire instrument from the statement problem and purpose of the study. (see Appendix H).

Preliminary drafts of the questionnaire with covering letter were reviewed and evaluated by a graduate Research and Development class in the Faculty of Education as well as by colleagues in the Department of Curriculum: Mathematics and Natural Science.

The revised questionnaire was then submitted to a panel of judges consisting of:

Ms. Isabella Dryden, Consultant in Business Education, Department of Education

Dr. A. M. McPherson, Head, Department of Curriculum: Mathematics and Natural Science, Faculty of Education

Mr. Luther Judt, and staff, Red River Community College, Instructors in the Integrated Program in Business and Industrial Arts, RRCC

Dr. Orest Cap, Associate Professor and Vocational/Industrial Coordinator, Faculty of Education (See Appendix I).

After incorporating the suggestions provided by the panel of judges, the questionnaire was pilot-tested in an evening class of twenty-six experienced business and vocational teachers who completed the questionnaire and made additional suggestions and comments.

SUMMARY OF QUESTIONNAIRES MAILED AND RETURNS RECEIVED
IN THE PROFESSIONAL/TECHNICAL UPDATING RESEARCH

	Business	Vocational/ Industrial	Total
Questionnaires mailed May, 1983	136	108	244
First returns:	74	55	129
Second Mailing June, 1983:	62	53	115
Second returns:	18	21	39
Balance (Non-returns)	44	32	76
Total Returns:	92	76	168
Less: Returns "No longer teaching in area"	2	1	3
Unanswered returns:	1	1	2
Total unusable returns:	3	2	5
Usable Returns:	89	74	163
Percentage:	67%	69%	68%

CHAPTER IV

ANALYSIS OF DATA

Introduction

The purpose of this study was to report the findings of a survey of Manitoba business and vocational/industrial teachers, to determine their reactions to the issues associated with the updating of teacher skills and knowledge in their respective areas.

Questionnaires were mailed out to 136 business and 108 vocational/industrial teachers, representing 50% of the 488 specialist teachers identified from Dept. of Education computer information lists (see Appendix J).

One hundred sixty-eight returns were received, representing sixty-eight percent of the two hundred forty-four teachers included in this research study.

Organization and Presentation of Findings

The purpose of this chapter was to analyze the data provided by the one hundred sixty-eight respondents in this study and present these findings in an informative manner.

The questionnaire data was tabulated and presented in twenty-one Tables which are included in this chapter. These findings were organized according to the order in which the information was requested on the questionnaire instrument.

Following each Table is an Observation Section, outlining the major findings as identified by the tabulation of the data.

TABLE I

PROFESSIONAL QUALIFICATIONS OF 163 MANITOBA BUSINESS & VOCATIONAL/ INDUSTRIAL SECONDARY SCHOOL TEACHERS WHO PARTICIPATED IN THE PROFESSIONAL/TECHNICAL UPDATING RESEARCH

	Business Education Teachers		Vocational/ Industrial Teachers		Total	
Teaching Qualification	f*	%	f	%	f	%
Business Education Special Certificate	47	36	—	—	47	20
Vocational/Industrial Special Certificate	—	—	68	62	68	29
Prof. Certificate In Education	3	2	—	—	3	1
Diploma in Fine Arts	—	—	1	1	1	—
Bachelor of Pedagogy	8	6	5	5	8	4
Bachelor of Education (First Degree)[a]	15	12	7	6	22	9
Bachelor of Arts	10	8	3	3	13	5
Bachelor of Fine Arts	—	—	1	1	1	—
Bachelor of Interior Design	—	—	1	1	1	—
Bachelor of Science	—	—	3	3	3	1
Bachelor of Commerce	3	2	—	—	3	1
Bachelor of Science (Education)	1	1	—	—	1	—
Bachelor of Home Ec.	1	1	—	—	1	—
Bachelor of Teaching	1	1	—	—	1	—
Bachelor of General Studies	—	—	4	4	4	2
Bachelor of Rec. Ed.	—	—	1	1	1	—
Bachelor of Education (Second Degree)[b]	28	21	5	5	33	14
Pre-Masters in Ed.[c]	5	4	3	3	8	3
Master of Education	4	4	2	2	6	3
Other [d]	3	2	5	5	8	3
TOTAL	129	100	109	100	238	100

* - "Frequency"

Tables I and II summarize the professional qualifications of 163 Manitoba business and vocational/industrial teachers who participated in this study.

Observations:

1. The 163 Manitoba business and vocational/industrial teachers possessed a multiplicity of certificates and degrees (238 degrees and certificates).
2. More than one-third of the business education teachers (36%) earned the special certificate as part of their professional qualifications.
3. Approximately two-thirds of the vocational/industrial teachers (62%) earned the special certificate in their area of specialization.
4. Study participants qualified for a variety of Bachelor degrees - eleven degree types in addition to the Bachelor of Education (first degree) and the Bachelor of Education (second degree).
5. Twenty-nine percent of the business teachers and ten percent of the vocational/industrial teachers continued with graduate level study, with six of the 163 having qualified for their Master of Education degree.

[a] The Bachelor of Education (first degree) is awarded to a candidate who completes successfully, the approved 4-year professional education program currently being offered in the Faculty of Education, University of Manitoba. Candidates are admitted into the program who have attained the Grade XII university entrance qualification.

b The Bachelor of Education (second degree) was awarded to candidates who were already university graduates, holding degrees in Arts, Science, etc. The program consisted of a further two-year period of professional training. This degree program was terminated in October, 1981.

c Currently, the Pre-Master's in Education program is provided for those students who normally would have taken the "Old" or "second degree" B. Ed. program. Completion of the Pre-Master's program is considered equivalent to this degree.

d Other teaching qualifications included: Registered Industrial Accountant, University of London Teacher's Certificate, London City and Guilds Certificate, "High School/RRCC", "Canadian College Institute" and German Trade Certificate.

TABLE II

PROFESSIONAL QUALIFICATIONS OF 163 MANITOBA BUSINESS AND VOCATIONAL/ INDUSTRIAL TEACHERS ACCORDING TO THEIR DEGREE AND CERTIFICATE/DIPLOMA COMBINATION

	Business Education Teachers		Vocational/ Industrial Teachers		Total	
Teaching Qualification	f	%	f	%	f	%
Non-Degreed Teachers; (one or more professional, special and/or diploma)	32	36	48	65	80	49
Degree(s) But No Certification	1	1	1	1	2	1
One Degree and One or More Certificate(s)/Diplomas	39	44	16	22	55	34
Two Bachelor Degrees or One Bachelor Degree and Pre-Masters plus Certification	12	13	7	9	19	12
Master of Education Degree Plus Certification	5	6	2	3	7	4
TOTAL	89	100	74	100	163	100

Observations

1. Table II groups and summarizes the information about teacher qualification presented in Table I.

2. Thirty-six per cent of the business teachers and sixty-five percent of the vocational/industrial teachers were non-degreed teachers who had earned one or more professional and special certificate(s) and/or diplomas.

3. Approximately one-third of the teachers in this study had earned a degree in addition to one or more certificates/ diplomas.

4. A larger percentage of the business teachers (64%) than the vocational/industrial teachers (35%) had degree qualifications. This does not suggest that the latter group were less qualified to teach as a great majority had obtained journeyman qualifications in their particular trade area before embarking upon their professional teacher training.

5. Twenty-six of the teachers in this study (16%) had completed some part of their graduate program of studies, with 4 percent already having been awarded the Master of Education Degree.

TABLE III

TOTAL NUMBER OF YEARS OF TEACHING EXPERIENCE
OF 163 PARTICIPATING MANITOBA BUSINESS
AND VOCATIONAL/INDUSTRIAL TEACHERS

Years of Teaching Experience	Business Education Teachers		Vocational/ Industrial Teachers		Total	
	f	%	f	%	f	%
1 - 3 years	16	18	11	15	27	17
4 - 6 years	8	9	9	12	17	10
7 - 9 years	16	18	21	28	37	23
10 - 12 years	17	19	12	16	29	18
13 - 15 years	11	12	13	18	24	15
16 - 18 years	4	4	1	1	5	3
More than 18 years	14	16	6	8	20	12
Did Not Indicate	3	3	1	1	4	2
TOTAL	89	100	74	100	163	100

Tables III and IV summarize the type and number of years of teaching experience obtained by the respondents in this study.

Observations

1. The median years of total teaching experience for business education teachers was 10 years, while for the vocational/industrial teachers the median was 8 years.

2. There appears to be a drop in respondents with 16 - 18 years of teaching experience.

3. One out of every eight teachers (12%) had more than 18 years of teaching experience.

TABLE IV

NUMBER OF YEARS OF BUSINESS OR VOCATIONAL/INDUSTRIAL TEACHING EXPERIENCE OF 163 MANITOBA TEACHERS

Years of Teaching Experience	Business Education Teachers		Vocational/ Industrial Teachers		Total	
	f	%	f	%	f	%
1 - 3 years	21	24	12	16	33	20
4 - 6 years	10	11	9	12	19	12
7 - 9 years	16	18	21	28	37	23
10 - 12 years	17	19	11	15	28	17
13 - 15 years	11	12	11	15	22	13
16 - 18 years	4	4	1	1	5	3
More than 18 years	6	7	6	8	12	7
Did Not Indicate	4	4	3	4	7	4
TOTAL	89	100	74	100	163	100

It was assumed that some of the teachers in this study would have taught in non-vocational disciplines; teachers were therefore asked to identify their years of teaching when 50% or more of their teaching responsibilities were in business or vocational/industrial education. Table IV indicates the number of years of teaching experience in the specialized areas.

Observations

1. The median years of experience for business and vocational/industrial teachers, in their specialized areas was nine years and eight years respectively.

2. When this data is contrasted with that of Table III, one finds that business teachers, on the average, spent one year teaching primarily non-business subjects (10 years in total as compared to 9 years in business education). This statistic does not appear to replicate for the vocational/industrial teachers in this study.

TABLE V

NUMBER OF MANITOBA BUSINESS & VOCATIONAL/INDUSTRIAL TEACHERS WHO OBTAINED BUSINESS OR INDUSTRIAL WORK EXPERIENCE BEFORE COMMENCING THEIR TEACHER EDUCATION PROGRAMS

	Business Education Teachers		Vocational/ Industrial Teachers		Total	
Work Experience	f	%	f	%	f	%
Obtained Business or Industrial Work Experience Before Commencing Teacher Education	62	70	68	92	130	80
Did Not Obtain Business or Industrial Work Experience Before Commencing Teacher Education	25	28	5	7	30	18
Did Not Indicate	2	2	1	[illegible]	3	2
TOTAL	89	100	74	100	163	100

Tables V to X summarize the responses of 163 Manitoba business and vocational/industrial teachers to the question of work experience and determine the number who obtained such experience before and after receiving their professional training, as well as identify the types and length of this work experience.

Observations

1. A large majority of the 163 respondents (80%) indicated that they had received work experience in business and industry prior to commencing their professional training as teachers.

2. This percentage (92%) is especially high for the vocational/industrial teachers. This would be expected as they would have completed a recognized designated trades training or its equivalent in an apprenticeship program.

3. Seventy per cent of the business education teachers in this study obtained pre-training work experience.

TABLE VI

PRINCIPAL TYPES AND LENGTH OF PRE-TRAINING WORK EXPERIENCE OBTAINED BY 62 MANITOBA BUSINESS TEACHERS

incipal Types of rk Experience	Length of Work Experience (In Years)						
	<1	1-<5	5-<9	9-<13	13-<17	17+	Total
cretarial	1	13	4	5	1	1	25
counting	--	6	2	1	1	—	10
neral Clerical	--	7	1	1	—	--	9
rketing/Sales/ Advertising	--	1	2	2	—	1	6
ta Processing/ Computer Programming	--	1	--	1	—	--	2
ther"[a]	3	5	1	1	—	--	10
TOTAL	4	33	10	11	2	2	62

Observations

1. While 62 business education teachers (70%) indicated that they had obtained business or industrial work experience before commencing their teacher education program, a majority of this number (37) revealed that this experience was of less than five years duration.

2. The median years of pre-training work experience was approximately 3-1/2 years.

3. The largest single number received their pre-training work experience in the secretarial field (40%), with approximately 16 per cent indicating that this experience was obtained in each of the Accounting, General, Clerical or "Other" categories.

[a] Ten of the business education teachers responded with comments such as: "General office work", "Business experience of various kinds": "Owned my own business"; "Miscellaneous business experience"; etc.

TABLE VII

PRINCIPAL TYPES AND LENGTH OF PRE-TRAINING WORK EXPERIENCE OBTAINED BY 68 MANITOBA VOCATIONAL/INDUSTRIAL TEACHERS

rincipal Types of ork Experience	Length of Work Experience (In Years)						
	<1	1-<5	5-<9	9-<13	13-<17	17+	Total
echanical/Automotive/ Power Mechanics	--	--	5	6	3	6	20
iscellaneous responses[a]	--	--	5	2	4	3	14
ilding Contractor/ Maintenance/Carpentry	--	--	--	4	2	2	8
lectricity/Electronics	--	--	3	1	1	2	7
rinting/Graphic Arts/ Commercial Art	--	--	--	3	1	1	5
ood Services	--	--	--	--	1	3	4
rmed Forces	--	--	--	--	--	4	4
ther*	--	2	1	1	1	--	5
d Not Indicate Type	--	1	--	--	--	--	1
TOTAL	--	3	14	17	13	21	68

Observations

1. Of the sixty-eight vocational/industrial teachers who obtained work experience prior to commencing their teacher education program (Table V), the largest number of these teachers (20) received this experience in the mechanical/automotive/power mechanics areas.

2. The median years of pre-training work experience for the 68 vocational/industrial teachers was 13 years. This statistic is in sharp contrast to that of the business education teachers whose median work experience was approximately 3-1/2 years.

[a] Fourteen of the vocational/industrial teachers responded with comments such as "apprenticeship program", "employed in my trade", "full time employment", "working for my journeyman's papers", etc., without revealing their precise work experience areas.

TABLE VIII

NUMBER OF MANITOBA BUSINESS & VOCATIONAL/INDUSTRIAL TEACHERS WHO OBTAINED BUSINESS OR INDUSTRIAL WORK EXPERIENCE SINCE THEY COMMENCED TEACHING

	Business Education Teachers		Vocational/ Industrial Teachers		Total	
Work Experience	f	%	f	%	f	%
Obtained Business or Industrial Work Experience Since They Commenced Teaching	29	32	28	38	57	35
Did Not Obtain Business or Industrial Work Experience Since They Commenced Teaching	55	62	41	55	96	59
Did Not Indicate	5	6	5	7	10	6
TOTAL	89	100	74	100	163	100

Observations

1. One-third of the teachers in this study indicated that they had obtained business or industrial work experience since they commenced teaching.

2. This percentage is slightly higher for the vocational/industrial teachers (38%) than for business education teachers (32%).

TABLE IX

PRINCIPAL TYPES AND LENGTH OF WORK EXPERIENCE OBTAINED BY BUSINESS EDUCATION TEACHERS SINCE THEY COMMENCED TEACHING

Principal Types of Work Experience	Length of Work Experience (In Years)					Did Not Indicate Length	Total
	<1	1-<2	2-<3	3-<4	4+		
"Others"	2	1	1	2	1	1	8
General Clerical	3	1	1	1	--	1	7
Secretarial	5	1	—	—	—	—	6
Accounting	3	1	1	—	—	—	5
Marketing/Sales Advertising	1	—	—	—	—	1	2
Data Processing/ Computer Programming	1	—	—	—	—	—	1
TOTAL	15	4	3	3	1	3	29

Observations

1. Of the twenty-nine business education teachers who indicated that they have had work experience since they commenced teaching, the largest number (classified as 'other') identified "General office work", "General business experience", "Owned my own business", "Miscellaneous office work", as the type of experience received.

2. General clerical, Secretarial and Accounting were also identifed as representing principal types of work experience by the business education teachers.

3. For a majority of these teachers (15 of the 29 respondents) the length of the work experience was of less than one year duration. Only one respondent indicated that his/her work experience was in excess of four years' duration.

TABLE X

PRINCIPAL TYPES AND LENGTH OF WORK EXPERIENCE OBTAINED BY 28 MANITOBA VOCATIONAL/ INDUSTRIAL TEACHERS SINCE THEY COMMENCED TEACHING

Principal Types of Work Experience	Length of Work Experience (In Years)			Did Not Indicate Length	Total
	<1	1-<2	2-<3		
Mechanical/Automotive/ Power Mechanics	5	2	1	—	8
Building Contractor/ Maintenance/Carpentry	3	2	—	—	5
Electricity/Electronics	3	2	—	—	5
"Other"	3	1	1	—	5
Printing/Graphic Arts/ Commercial Art	1	—	—	1	2
Photography	1	—	—	1	2
Did Not Indicate	—	—	—	1	1
TOTAL	16	7	2	3	28

Observations

1. Of the twenty-eight vocational/industrial teachers who indicated that they have had post-teacher training work experience, almost one-third (8) identified mechanical/automotive/power mechanics as the area in which this experience was obtained.

2. Five respondents identifed the building contractor/maintenance/carpentry areas and a similar number recorded electricity/electronics as the type of work experience obtained in their post-training period.

3. A third group of five teachers responded with comments such as: "Employed in my trade", "Worked in my special field", etc.

4. A majority of these vocational/industrial teachers indicated that the duration of such post-training work experience was less than one year in length.

TABLE XI

RELATIONSHIP OF WORK EXPERIENCES TO TEACHER EFFECTIVENESS AS EXPRESSED BY 130 MANITOBA BUSINESS & VOCATIONAL/ INDUSTRIAL TEACHERS WHO OBTAINED SUCH EXPERIENCES

Value of Work Experiences	Business Education Teachers		Vocational/ Industrial Teachers		Total	
	f	%	f	%	f	%
"Work Experience of Great Value"	37	60	46	68	83	64
"Work Experience of Some Value"	19	30	14	20	33	25
"Work Experience of No Value"	--	--	--	--	--	--
Did Not Indicate	6	10	8	12	14	11
TOTAL	62	100	68	100	130	100

TABLE XI

RELATIONSHIP OF WORK EXPERIENCES TO TEACHER EFFECTIVENESS AS EXPRESSED BY 130 MANITOBA BUSINESS & VOCATIONAL/ INDUSTRIAL TEACHERS WHO OBTAINED SUCH EXPERIENCES

Value of Work Experiences	Business Education Teachers		Vocational/ Industrial Teachers		Total	
	f	%	f	%	f	%
"Work Experience of Great Value"	37	60	46	68	83	64
"Work Experience of Some Value"	19	30	14	20	33	25
"Work Experience of No Value"	—	—	—	—	—	—
Did Not Indicate	6	10	8	12	14	11
TOTAL	62	100	68	100	130	100

TABLE XII

TEACHER OBLIGATIONS TOWARDS CONTINUAL SKILL AND KNOWLEDGE UPDATING AS EXPRESSED BY 163 MANITOBA BUSINESS AND VOCATIONAL/INDUSTRIAL TEACHERS

Obligation Towards Continual Updating	Business Education Teachers		Vocational/ Industrial Teachers		Total	
	f	%	f	%	f	%
"...have a professional obligation to update skills and knowledge"	76	86	67	90	143	88
"...undecided about their obligation to update their skills and knowledge	8	9	3	4	11	7
"...do not have a professional obligation to update their skills and knowledge"	2	2	2	3	4	2
Did Not Indicate	3	3	2	3	5	3
TOTAL	89	100	74	100	163	100

The business and vocational/industrial teachers participating in this study were asked their opinions about the teacher's obligation to continually update his/her professional/technical skills and knowledge. Their responses are summarized in Table XII.

Observations

1. A large percentage of the respondents (88%) were of the opinion that business and vocational/industrial teachers have a professional obligation to insure that their skills and knowledge are current.

2. Seven percent of the participants indicated that they were undecided about their obligation to update the skills and knowledge they impart to their students.

3. Two percent responded negatively, stating that, in their opinion, no such obligation rests with the teacher.

4. Space was provided on the questionnaire instrument for participants to comment on this professional obligation. A summary of these comments is reported in Appendix L.

TABLE XIII

FREQUENCY OF PROFESSIONAL/TECHNICAL UPDATING RECOMMENDED BY 155 MANITOBA BUSINESS AND VOCATIONAL/INDUSTRIAL TEACHERS

	Business Education Teachers		Vocational/ Industrial Teachers		Total	
Frequency Of Updating	f	%	f	%	f	%
More Often Than Once A Year:	4	5	2	3	6	4
Yearly:	20	25	25	34	45	29
Every 2 Years:	16	20	15	20	31	20
Every 3 Years:	14	17	8	11	22	14
Every 4 Years:	8	10	3	4	11	7
Every 5 Years:	18	22	16	21	34	22
"Continuously":	1	1	3	4	4	3
"As Opportunity Arises":	—	—	2	3	2	1
TOTAL	81	100	74	100	155	100

Tables XIII and XIV summarize the responses of 155 business and vocational/industrial teachers about the extent to which they should contribute, in terms of frequency and length of period, to the updating of their skills and knowledge.

Observations

1. Approximately one-third of the respondents (30% of the business and 37% of the vocational/industrial teachers) were of the opinion that teachers should be upgraded at least yearly.

2. The second most frequent response was for updating every five years, with a significant number suggesting that the skills and knowledge updating should occur every two or three years.

3. A summary of respondents' comments to the question of frequency of professional/technical updating is found in Appendix M.

TABLE XIV

LENGTH OF PROFESSIONAL/TECHNICAL UPDATING RECOMMENDED BY 143 MANITOBA BUSINESS AND VOCATIONAL/INDUSTRIAL TEACHERS WHO RECOGNIZE AND SUPPORT THIS PROFESSIONAL OBLIGATION

	Business Education Teachers		Vocational/ Industrial Teachers		Total	
Period of Updating	f	%	f	%	f	%
Less Than One Week	—	—	3	4	3	2
One Week	21	26	11	15	32	21
Two Weeks	15	18	21	28	36	23
Three Weeks	10	12	9	12	19	12
Four Weeks	24	30	13	18	37	24
Five Weeks	7	9	1	1	8	5
Six Weeks	—	—	2	3	2	1
Six Months	1	1	—	—	1	1
Nine Months	—	—	2	3	2	1
One Year	2	3	7	9	9	6
"Continuously"	1	1	3	4	4	3
"As Opportunity Arises"	—	—	2	3	2	1
TOTAL	81	100	74	100	155	100

Observations

1. A high majority of the business and vocational/industrial teachers (80%) indicated that, in their opinion, one to four weeks is the length of time a colleague should contribute towards updating his/her skills and knowledge.

2. The most common response was that the period should be of a one-, two- or four-week duration.

3. The business teachers favoured
of updating, while vocational/industrial teachers preferred a two week period.

4. Six percent of the respondents indicated that teachers should contribute the periodic one year towards updating their skills and knowledge.

5. A summary of respondents' comments to the question of length of professional/technical updating is found in Appendix M.

TABLE XV

TIME PERIOD FOR PROFESSIONAL/TECHNICAL UPDATING RECOMMENDED BY 163 MANITOBA BUSINESS AND VOCATIONAL/ INDUSTRIAL TEACHERS

Recommended Time Period	Business Education Teachers		Vocational/ Industrial Teachers		Total	
	f	%	f	%	f	%
Education Leave	66	34	51	41	117	37
School In-Service Days	57	30	27	22	84	27
July or August	32	17	18	15	50	16
Normal Classroom Time	21	11	15	12	36	11
Easter Break	3	2	3	2	6	2
Christmas Break	2	1	4	3	6	2
July And August	1	1	1	1	2	1
July Only	1	1	—	—	1	1
Saturdays	3	2	1	1	4	1
"All Of The Above"	2	1	—	—	2	1
Did Not Indicate	4	2	3	2	7	2
TOTAL	192	100	123	100	315	100

Manitoba business and vocational/industrial teachers were asked to identify periods during the year when professional/technical updating should take place. A summary of the responses is found in Table XV.

Observations

1. Thirty-seven percent of the respondents selected educational leave with guaranteed position/salary upon return as the most preferred time to undertake updating of skills and knowledge. This position was favored by a larger percentage of vocational/industrial teachers (41%) than business education teachers (34%).
2. A quarter of the respondents (27%) favoured such activities to be experienced during school in-service days. A larger percentage of business education teachers (30%) than vocational/industrial teachers (22%) preferred this period.
3. "July or August" (16%) and "Normal classroom time" (11%) were the two other periods for professional/technical updating suggested by the respondents.
4. The teachers in this study did not favour updating activities to be undertaken during Easter break, Christmas break, on Saturdays or during both months of July and August.
5. A summary of comments made by the study participants is found in Appendix N.

TABLE XVI

SIGNIFICANCE OF PROFESSIONAL/TECHNICAL UPDATING TO THE RETENTION OF A TEACHER CERTIFICATE AS EXPRESSED BY 163 MANITOBA BUSINESS AND VOCATIONAL/INDUSTRIAL TEACHERS

Obligation For Certificate Retention	Business Education Teachers		Vocational/ Industrial Teachers		Total	
	No.	%	No.	%	No.	%
Voluntary Updating For The Retention Of A Teaching Certificate	48	54	46	62	94	58
Mandatory Updating For The Retention Of A Teaching Certificate	22	25	19	26	41	25
Undecided	15	17	7	9	22	13
Did Not Indicate	4	4	2	3	6	4
TOTAL	89	100	74	100	163	100

Manitoba business and vocational/industrial teachers were asked to express their opinions about whether professional/technical updating should be of a voluntary or mandatory nature, contingent upon retention of a teaching certificate. This information is summarized in Table XVI.

Observations

1. More than half of the teachers (58%) supported voluntary updating. This position was favoured by a larger percentage of vocational/industrial teachers (62%) than business teachers (54%).

2. One-quarter of the teachers indicated that professional/technical updating should be mandatory to the retention of a teacher's certificate.

3. One out of eight respondents (13%) were undecided on this issue, with this indecision being more prevalent among the business education teachers (17%) than the vocational/industrial teachers (9%).

4. The teachers surveyed were asked to comment on why they responded in the manner indicated. Appendix O summarizes the comments received.

TABLE XVII

INCENTIVES TO ENCOURAGE PROFESSIONAL/TECHNICAL UPDATING RECOMMENDED BY 163 MANITOBA BUSINESS AND VOCATIONAL/INDUSTRIAL TEACHERS

Types of Incentives	Business Education Teachers		Vocational/ Industrial Teachers		Total	
	f	%	f	%	f	%
Educational Leave	39	33	23	28	62	31
Credit Towards A Degree/Certificate	32	27	29	35	61	30
Increase in Salary	26	22	21	25	47	23
Tuition Remission	13	11	7	8	20	10
Work Load Reduction	10	8	3	4	13	6
TOTAL	120	100	83	100	203	100

The teachers in this study were asked to indicate the types of incentives that might be made available to teachers in order to encourage them to update their skills and knowledge. Although the questionnaire permitted the respondents to identify their choices as 1st, 2nd, 3rd, etc. many identified only one incentive. Most of those respondents who indicated more than one type of incentive did so by a check mark, rather than by choice. Table XVII summarizes the 203 responses indicated by the 163 business and vocational/industrial teachers in this study.

Observations

1. The two incentives most often selected were: educational leave (31%) and credit towards a degree/certificate (30%).
2. Twenty-three percent of the teachers surveyed supported "increase in salary" as a type of incentive to encourage updating.
3. A larger percentage of business teachers than vocational/industrial teachers selected the educational leave incentive. The reverse was true for the option of credit towards a degree/certificate (35% - vocational/industrial and 27% for business teachers).
4. Workload reduction and tuition remission were not considered significant incentives by the respondents in this study.
5. Teacher comments on the incentives is found in Appendix P.

TABLE XVIII

DEGREE OF AGREEMENT/DISAGREEMENT OF 89 MANITOBA BUSINESS EDUCATION TEACHERS TO SUGGEST PRIMARY METHODS OF UPDATING BUSINESS AND VOCATIONAL/INDUSTRIAL TEACHERS

Method of Updating	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Total
Industry and Business Sponsored Programs	35	38	9	6	1	89
Personal Initiative On Part Of Business/Vocational Teacher	28	39	13	9	—	89
Workshop/Inservice Provided By Teacher Education Institution	24	48	11	5	1	89
A Stated Requirement For Certificate/Degree	24	31	16	15	3	89
Conferences/Workshops Sponsored By Professional Teacher Societies such as MBETA, VITA	18	49	15	7	—	89
Workshop/Inservice Provided By Department of Education	13	52	15	7	2	89

Manitoba teachers who participated in this study were asked to state their opinions about the methods by which professional/technical updating could occur. Tables XVIII to XXI summarize their responses.

Observations

1. Thirty-five business teachers strongly agreed that industry and business sponsored programs should be a primary method of updating teachers, while twenty-eight indicated that such updating should be via the personal initiative of the teacher.
2. Twenty-four of these teachers strongly agreed that teacher education workshops/in-service and the stated requirement for certificate/degree qualification should be the means by which updating is encouraged.
3. A small number of the eighty-nine business teachers (from 0 to 3) strongly disagreed with any one of these methods of encouraging teacher updating.
4. A large number (between 9 - 16) indicated that they had no opinion about these methods of updating skills and knowledge.
5. None strongly disagreed that conference/workshops should be sponsored by professional societies or that the teacher should take the personal initiative to update his/her skills and knowledge.

TABLE XIX

AGREEMENT/DISAGREEMENT OF 89 MANITOBA BUSINESS EDUCATION TEACHERS TO SUGGESTED PRIMARY METHODS OF UPDATING
(Collapsed Categories with Percentages)

Method of Updating	Strongly Agree/ Agree		No Opinion		Disagree/ Strongly Disagree	
	f	%	f	%	f	%
Industry and Business Sponsored Programs	73	82	9	10	7	8
Workshop/Inservice Provided By Teacher Education Institution	72	81	11	12	6	7
Conferences/Workshops Sponsored By Professional Teacher Societies Such As MBETA, VITA	67	75	15	17	7	8
Personal Initiative On Part Of Business/Vocational Teacher	67	75	13	15	9	10
Workshop/Inservice Provided By Department of Education	65	73	15	17	9	10
A Stated Requirement For Certificate/Degree	55	62	16	18	18	20

Table XIX collapsed the Strongly Agreed/Agreed and Strongly Disagreed/Disagreed categories for the responses of the 89 business education teachers in this study.

Observations

1. More than 80 percent of the respondents strongly agreed or agreed that industry and business-sponsored programs and workshop/inservice experiences provided by teacher education institutions should be vehicles by which business and vocational/industrial teachers are updated.

2. Three out of four business teachers identified professional teacher societies, personal initiative and Department of Education workshops as means by which updating should be encouraged.

3. One-fifth of the respondents strongly disagreed or disagreed with updating being made a requirement for qualification of a certificate or degree.

4. A significant number of these teachers (10% - 18%) expressed no opinion about these methods by which updating might occur.

TABLE XX

AGREEMENT/DISAGREEMENT OF 74 MANITOBA VOCATIONAL/INDUSTRIAL TEACHERS TO SUGGESTED PRIMARY METHODS OF UPDATING BUSINESS AND VOCATIONAL/INDUSTRIAL TEACHERS

Method of Updating	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Total
Personal Initiative On Part Of Business/Vocational Teacher	36	28	6	4	--	74
Industry and Business Sponsored Programs	33	28	7	4	2	74
Workshop/Inservice Provided By Teacher Education Institution	13	23	11	19	8	74
Conferences/Workshops Sponsored By Professional Teacher Societies Such As MBETA, VITA	11	25	11	18	9	74
A Stated Requirement For Certification/Degree	10	16	21	15	12	74
Workshop/Inservice Provided By Department of Education	8	22	18	21	5	74

Tables XX and XXI summarize the responses of 74 vocational/technical teachers to the Likert-type scale of methods of updating, stating the degree to which they agree with these statements.

Observations

1. Manitoba vocational/industrial teachers strongly agreed that personal initiative on the part of the teachers and industry and business-sponsored programs were primarily methods to be employed in the updating of professional/technical skills and knowledge.

2. Only a small minority of these respondents (8-13 in number) strongly agreed with the other methods by which the teachers might be updated.

3. Statements of updating methods by which these teachers disagreed most often were (by number of teacher disagreements): certificate/degree requirements, initiative taken by professional teacher societies, and teacher education institution workshops/inservice.

4. None of the vocational/industrial teachers strongly disagreed with the statement that a primary method of updating should be the personal initiative on the part of the teacher.

TABLE XXI

AGREEMENT/DISAGREEMENT OF 74 MANITOBA VOCATIONAL/INDUSTRIAL TEACHERS TO SUGGESTED PRIMARY METHODS OF UPDATING
(Collapsed Categories With Percentages)

Method of Updating	Strongly Agree/ Agree		No Opinion		Disagree/ Strongly Disagree	
	f	%	f	%	f	%
Personal Initiative On Part Of Business/Vocational Teacher	64	87	6	8	4	5
Industry and Business Sponsored Programs	61	83	7	9	6	8
Workshop/Inservice Provided By Teacher Education Institution	36	49	11	15	27	36
Conferences/Workshops Sponsored By Professional Teacher Societies Such As MBETA, VITA	36	49	11	15	27	36
Workshop/Inservice Provided By Department of Education	30	41	18	24	26	35
A Stated Requirement For Certificate/Degree	26	35	21	29	27	36

Table XXI collapsed the strongly agreed/agreed and the strongly disagreed/disagreed categories for the responses of the 74 vocational/industrial teachers in this study.

Observations

1. Eighty-seven per cent of the teachers strongly agreed/agreed with the statement that personal initiative of their colleagues should be a primary factor towards teacher updating.

2. A slightly smaller number of these teachers (83%) strongly agreed/agreed that industry and business-sponsored programs was a primary avenue towards professional/technical updating.

3. Approximately one of every three respondents strongly disagreed/disagreed with the initiatives of teacher education institutions, Department of Education and professional societies in teacher updating or making such updating a stated requirement for qualification.

4. A significant number of the teachers in this category (8 - 29%) expressed no opinion about the method of professional/technical updating.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The problem of this study was to determine the willingness of business and vocational/industrial teachers in Manitoba to update their professional/technical skills and knowledge so as to more effectively meet the employment needs of their graduates.

A total number of 488 Manitoba business and vocational industrial teachers were identified whose teaching responsibilities were primarily in their specialized areas. A fifty percent random sample was selected as participants for this study.

A summary of the findings are:

1. The 163 Manitoba teachers who participated in this study earned a great variety of degrees and certificates.

2. Approximately one-third of the business education teachers (36%) and two-thirds of the vocational/industrial teachers (65%) were non-degreed teachers.

3. Four percent of the participants had earned their Master of Education degrees.

4. The median number of years of total teaching experience was ten years for the business teachers and eight years for the vocational/industrial teachers.

5. The median years of teaching experience in either the business or vocational/industrial area was nine years (B.E) and eight years (V/I).

6. Almost three-quarters of the business teachers (70%) obtained work experience in business and industry prior to commencing their formal teacher education program.

7. Ninety-two percent of the vocational/industrial teachers indicated they completed work experience programs before embarking on their professional training.

8. Of the business education teachers who received work experience before undertaking professional training, a majority indicated that this experience was of less than five years (median=3.5 yrs). The most common type of work experience was in the secretarial area, followed by accounting and general clerical. A small number indicated that they had owned their own businesses.

9. The periods of pre-training work experience for vocational/industrial teachers was considerably longer in duration, with the median being 13 years. Almost one-third of the replies identified the mechanical/automotive/power mechanics as the area in which this work experience was obtained.

10. A majority of the teachers (59%) indicated that they had not obtained business and industrial work experience since they commenced teaching.

11. The majority of the business education teachers who had received post-training work experience identified these areas as general clerical, secretarial, accounting and owner operators.

12. The principal types of post-training work experience obtained by vocational/industrial teachers were in the areas of mechanical/automotive/power mechanics, building contractor/maintenance/carpenter, and electricity/electronics.

13. A majority of the teachers indicated that pre- and post-training work experience was of great value (64%) or of "some value" (25%) and contributed to their professional preparation; however, a greater percentage of the vocational/industrial than the business teachers identified that work experience was of "great value".

14. None of the teachers indicated that work experience was of no value to their becoming more effective teachers.

15. A large percentage of the respondents (88%) was of the opinion that business and vocational/industrial teachers have a professional obligation to insure that their skills and knowledge are continually updated. Two percent indicated that such an obligation is not their responsibility.

16. Of the 155 business and vocational/industrial teachers who believed that they are professionally obligated to continually update their skills and knowledge, one-third of this number supported yearly updating. "Every five years", "every two years", and "every three years" were other responses in decreasing frequency.

17. The most common length of professional/technical updating recommended by the supporting respondents was from 1 to 4 weeks. Six percent indicated that teachers should contribute a period of one year towards this activity.

18. Educational leave with guaranteed position/salary, school in-service days, July OR August and normal classroom time were time periods most often recommended for updating of a teacher's skills and knowledge.

19. A majority of the respondents (58%) supported voluntary updating rather than mandatory updating (25%) for the retention of a teaching certificate. Thirteen percent of the teachers were undecided about this issue.

20. Educational leave, credit towards a degree/certificate and increase in salary were the major types of incentives recommended by the respondents to encourage colleagues to update their professional skills and knowledge. As a group, business teachers favoured educational leave while vocational/industrial teachers supported the incentive of credit towards a degree and/or certificate.

21. Industry and business sponsored programs and workshop/inservice provided by Teacher Education Institutions were the most popular methods of updating suggested by business education teachers who participated in this study. Vocational/industrial teachers recognized the personal initiative of the teacher and industry and business sponsored programs as two principal methods of updating of their colleagues.

22. More than one-third of Manitoba vocational/industrial teachers strongly disagreed or disagreed with the method of updating involving workshops/conferences/inservice conducted by Teacher Education Institutions, Professional Teachers Organizations or the Department of Education, or that the updating be contingent on the awarding of the teacher certificate or degree.

Conclusions

1. Two-thirds of the business teachers and one-third of the vocational/industrial teachers who participated in this study were degreed teachers. The median years of teaching experience in their specialized areas were nine and eight years respectively.

2. Seventy percent of the business teachers and 92% of the vocational/industrial teachers had completed work experience before embarking on their professional teacher training. For these teachers the median years of such experience was 3.5 years (B.E.) and 13 years (V/I).

3. Fifty-nine percent of the respondents indicated that they had not obtained business and industrial work experience since they commenced teaching. For the majority of both groups of teachers who had received post-training experience, the duration of such experience was less than one year in length.

4. Almost two-thirds of the business and vocational/industrial teachers were of the opinion that work experience was valuable since it helped them become more effective teachers. None of the respondents were of the opinion that such experience was of no value to them as professional teachers.

5. A large percentage of the respondents (88%) was of the opinion that business and vocational/industrial teachers have a professional obligation to insure that their skills and knowledge are continually updated. Two percent indicated that such an obligation is not their responsibility.

6. Of the one hundred fifty-five respondents who supported a professional obligation towards continuous updating of skills and

knowledge, one-third maintained that such updating should occur at least yearly, with "every five years", "every two years", "every three years" as responses in decreasing frequency. The most common length of such recommended updating was from one to four weeks.

7. Educational leave with guaranteed position/salary and school inservice days were the recommended time periods for professional/technical updating that were supported by a majority of the respondents.

8. A majority of the respondents supported voluntary, rather than mandatory updating for the retention of their teaching certificates, with educational leave and credit towards a degree/certificate as being the major incentives recommended to encourage colleagues to update their professional backgrounds.

9. Both the business and vocational/industrial teachers strongly supported industry and business sponsored programs for updating teacher skills and knowledge. Business teachers strongly agreed or agreed that workshops/inservice experiences provided by teacher education institutions is another valued vehicle for professional development. A significant majority of the vocational/industrial teachers strongly agreed or agreed that the personal initiative of the teacher should be a primary factor towards teacher updating.

Recommendations

Based on the analysis and interpretation of this study data, the following recommendations are proposed:

1. The establishment of a provincial body responsible for the adminstration, implementation, supervision and evaluation of approved updating activities;
2. The production of provincial guidelines on acceptable voluntary updating activities with corresponding weighted values for each activity;
3. Additional studies of a similar nature should be undertaken with post-secondary instructors, secondary and post-secondary counselors and work education coordinators to determine these educators' reactions to the issue of updating of skills and knowledge.

APPENDICES

A. Microcomputer & Word Processing Workshops - Information Sheet

B. Microcomputer Workshops for Business/Vocational Teachers

C. Information/Word Processing Workshops for Business/Vocational Teachers

D. Business/Vocational Education Evaluation Form

E. Computer Numberical Control (CNC) Lathe and Milling Machines Workshop

F. CNC Hardware/Software/Workshop Evaluation

G. Certificate of Appreciation

H. Questionnaire Instrument

I. Instructions for Panel of Experts

J. Covering Letter to Teachers

K. Comments from Teachers About the Effectiveness of Pre- and/or Post-Training Work Experience

L. Comments from Teachers About their Professional Obligation to Continually Update their Skills and Knowledge

M. Teacher Comments About the Frequency and Length of Time Teachers Should Contribute to Updating of their Skills and Knowledge

N. Comments from Teachers When Asked to Identify Periods during the Year When Professional/Technical Updating Should Take Place

O. Teacher Comments About Whether Professional/Technical Updating Should be of a Voluntary or Mandatory Nature to Retention of a Teaching Certificate

P. Comments from Teachers About the Types of Incentives that Might be Made Available to Encourage Teachers to Update their Professional/Technical Skills and Knowledge

APPENDIX A

MICROCOMPUTER & WORD PROCESSING WORKSHOPS
INFORMATION SHEET

APPENDIX A

WORKSHOPS IN MICROCOMPUTERS IN EDUCATION & WORD PROCESSING APPLICATIONS

FACULTY OF EDUCATION, UNIVERSITY OF MANITOBA

September 25th and October 2nd, 1982

"Understanding and Using Computers are Today's Keys to Tomorrow's Education and Careers"

The Business and Vocational Education Section, Department of Curriculum: Mathematics & Natural Science, will offer the following Saturday Workshops:

I. Workshop in Microcomputers for Teachers of Business and Vocational Subjects:

- Saturday, September 25, 1982. 9:00 a.m. - 4:00 p.m.

II. Workshop in Word Processing Software and Applications in Business and Vocational Education:

- Saturday, October 2, 1982. 9:00 a.m. - 4:00 p.m.

These workshops are organized as a professional development service by the Faculty of Education as well as in response to requests from Manitoba teachers who are interested in acquiring additional knowledge and practical hands-on experience in the educational uses of the microcomputer.

These workshops are meant to serve those teachers employed in outlying parts of the Province and, because of distance, are unable to enrol in the evening classes in the Faculty of Education. Non-vocationally trained teachers who are teaching one or more business and vocational subjects are also encouraged to attend.

Each workshop will begin with an introduction to principles and concepts of microcomputer education followed by hands-on experience with the twenty microcomputers in our Microcomputer Lab.

Participants will be provided with extensive material for use during the workshop and which can also be used in classroom teaching. These workshops are an introduction to the new courses which are currently being offered by the Business and Vocational Section in the area of microcomputers in education and software applications such as word processing.

There is no charge to the participants of these workshops.

It should be emphasized that these workshops are an opportunity for teachers from the smaller schools and from institutions that have not purchased computer hardware to date, to enhance their knowledge about this rapidly-growing field in education.

Although the workshops are organized primarily for educators who are teaching in the business and vocational areas, other interested teachers can attend. Space and number of computers dictate limited enrollments for each workshop. Applications will be processed on a first-come, first-served basis.

Teachers who have completed the Education courses in these areas will be assisting at these workshops.

Interested teachers should communicate with the undersigned, indicating the workshop(s) they wish to attend. They will receive confirmation by return mail.

Additional Saturday workshops are planned for Winnipeg and other Manitoba centres during 1983 and 1984. The centres to be selected for future in-service will depend upon the interest shown by teachers in particular areas of Manitoba.

All teacher requests for workshops in Mincrocomputers in Business and Vocational Education and Information/Word Processing Applications (and other vocational areas) will be collected and tabulated. The dates and venues of future in-service days will be announced in Education Manitoba, The Manitoba Teacher and MBETA Journal or Newsletter.

Dr. George H. J. Porozny
Room 421, Education Building
Faculty of Education
University of Manitoba

APPENDIX B

MICROCOMPUTER WORKSHOPS FOR BUSINESS/VOCATIONAL TEACHERS

APPENDIX B

MICROCOMPUTER WORKSHOP FOR BUSINESS/VOCATIONAL TEACHERS

FACULTY OF EDUCATION - UNIVERSITY OF MANITOBA

BUSINESS EDUCATION SECTION

ROOM 328, Education September 25, 1982 Conducted By: Dr. G.H.J. Porozny

PROGRAMME

8:30 -	9:15 *	Registration and coffee
9:15 -	9:30 *	Introductory Remarks - Overview of the Workshop Greetings - Mr. Marshall Draper, Consultant in Business Education, Department of Ed. - Mr. Vic Mollot, Consultant in Vocational Industrial Education, Department of Ed.
9:30 -	10:15 *	Computer Film - "Now The Chips Are Down"
10:15 -	10:30 *	Break - coffee
10:30 -	11:00 *	Microcomputers and Business/Vocational Education
11:00 -	12:00 *	Programming the CBM Microcomputer
12:00 -	1:15 *	Lunch
1:15 -	2:30 *	Software Applications in Business and Vocational Ed.
2:30 -	2:45 *	Break - coffee
2:45 -	3:45 *	Software Applications in Business and Vocational Education (continued)
3:45 -	4:00 *	Workshop windup - Evaluation; Input from Participants-suggestions for future workshop/inservice sessions; Faculty of Education Offerings during Evening Sessions, 1982-83, Summer Evening and Summer Day, 1983.

*****

APPENDIX B

MICROCOMPUTER WORKSHOP FOR BUSINESS/VOCATIONAL TEACHERS

FACULTY OF EDUCATION - UNIVERSITY OF MANITOBA

BUSINESS EDUCATION SECTION

ROOM 328, Education September 25, 1982 Conducted By: Dr. G.H.J. Porozny

PROGRAMME

8:30 -	9:15 *	Registration and coffee
9:15 -	9:30 *	Introductory Remarks - Overview of the Workshop Greetings - Mr. Marshall Draper, Consultant in Business Education, Department of Ed. - Mr. Vic Mollot, Consultant in Vocational Industrial Education, Department of Ed.
9:30 -	10:15 *	Computer Film - "Now The Chips Are Down"
10:15 -	10:30 *	Break - coffee
10:30 -	11:00 *	Microcomputers and Business/Vocational Education
11:00 -	12:00 *	Programming the CBM Microcomputer
12:00 -	1:15 *	Lunch
1:15 -	2:30 *	Software Applications in Business and Vocational Ed.
2:30 -	2:45 *	Break - coffee
2:45 -	3:45 *	Software Applications in Business and Vocational Education (continued)
3:45 -	4:00 *	Workshop windup - Evaluation; Input from Participants-suggestions for future workshop/inservice sessions; Faculty of Education Offerings during Evening Sessions, 1982-83, Summer Evening and Summer Day, 1983.

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APPENDIX C

INFORMATION/WORD PROCESSING WORKSHOPS FOR BUSINESS/VOCATIONAL TEACHERS

APPENDIX C

INFORMATION/WORD PROCESSING WORKSHOP

FOR BUSINESS/VOCATIONAL TEACHERS

FACULTY OF EDUCATION - UNIVERSITY OF MANITOBA

BUSINESS EDUCATION SECTION

ROOM 328, Education | October 2, 1982 | Conducted By: Dr. G.H.J. Porozny

PROGRAMME

8:30 - 9:15	*	Registration and Coffee
9:15 - 9:30	*	Introductory Remarks - Overview of the Workshop Introduction of Assistants Acknowledgement equipment use Greetings - Mr. Vic Mollot, Consultant in Vocational Industrial Education, Department of Ed.
9:30 - 10:00	*	Film Strip/Tape Presentation: "Concepts of Word Processing." MPC Educational Publishers.
10:00 - 10:15	*	Break - Coffee
10:15 - 11:15	*	Principles and Procedures of Information/Word Processing
11:15 - 12:00	*	"Hands On" Experience with Word Processing Software (Scriptset & Word Pro) on Radio Shack TSR 80 & CBM Microcomputers.
12:00 - 1:15	*	Lunch
1:15 - 2:30	*	Integrating Information/Word Processing into High School business education courses: Office Procedures, Tyewriting, etc. Teaching Word Processing Concepts without Text-Editing Equipment - Presentation by Miss Isabella Dryden, Curriculum Services, Department of Education
2:30 - 2:45	*	Break - Coffee
2:45 - 3:45	*	Continuation of "Hands On" Experience with Word Processing Software on Radio Shack TSR 80 & CBM Microcomputers
3:45 - 4:00	*	Workshop Windup Evaluation; Input from Participants - suggestions for future workshop/inservice sessions; Faculty of Education course offerings, 1983.

APPENDIX D

BUSINESS EDUCATION WORKSHOPS
EVALUATION FORM

APPENDIX D

BUSINESS-EDUCATION WORKSHOPS

EVALUATION FORM

Please complete this form at the end of the workshop and return to the workshop director.

	Excellent	Good	Satisfactory	Poor
1. How would you rate the content of this workshop? (check one)	____	____	____	____
2. How would you rate the organization and presentation of this workshop?	____	____	____	____

3. If this workshop is presented again:

   a) What do you think should be retained?

   _____

   _____

   _____

   b) What do you think should be deleted?

   _____

   _____

   _____

   c) What do you think should be added?

   _____

   _____

   _____

4. Other comments:

   _____

   _____

   _____

   _____

5. List other business education subject areas which you think require workshops of this type?

   _____

   _____

   _____

APPENDIX E

COMPUTER NUMERICAL CONTROL (CNC)
LATHE & MILLING MACHINES WORKSHOP

APPENDIX E

CNC LATHE TRAINING WORKSHOP

Information and Registration

CNC (computer numerical control) lathe training workshop designed for entry level training of machine operators, set-up personnel, machine mechanics and instructors. Featuring step-by-step instruction and hands-on training to facilitate system understanding.

A two-day introductory CNC Lathe Training workshop will be conducted at the Faculty of Education, Industrial Education Section, University of Manitoba.
Previous experience with CNC lathe operations is not necessary.
CNC workshop will include theory and practice focusing on:

* 3-axis CNC lathe operations
* exposure to CNC programming
* limited production operation on lathe
* introduction to CAD (computer-aided-design) advance

Also on hand will be a CNC 932 3-axis vertical milling machine with focus on programming and applications.

****

Dates: Friday, Nov.30, and Saturday, December 1st, 1984

Time: 9:00-11:00 a.m.; 1:00-4:00 p.m. (coffee/cookies)

Location: Room 365, Faculty of Education, Univ. of Manitoba

Program: Based on SINGER CNC Lathe Training Program

Workshop Fee: $40.00

Workshop Director: Rae McIntosh, Toronto

CNC Workshop will be limited to 15 participants and will be filled on a first-registered, first-served basis. Register early to assure acceptance. Workshop registrations confirmed as soon as possible.
For further information, call 888-8680 or 474-9073.
****

CNC LATHE WORKSHOP REGISTRATION

Name of registrant_____ Phone no.(work)_____

Address_____ Phone no.(home)_____

Send with payment ($40.00) to: Victor Koslowsky, Industrial Education Section, Room 407, Faculty of Education, University of Manitoba, R3T 2N2.
(Make cheques payable to University of Manitoba)

AGENDA
CNC LATHE TRAINING WORKSHOP

Friday, November 30th and Saturday December 1st, 1984
Faculty of Education
University of Manitoba

	CNC Lathe	CNC Milling
Friday		
a.m.		
9:00-11:00	Rae McIntosh Introduction/Theory/ Demonstration (Room 361)	
10:00	Coffee Break (Room 362)	
p.m.		
11:00-1:00	Lunchtime	
1:00-4:00	Problem Solving Prepare Programs Hands-on (Room 361)	
2:30	Coffee Break (Room 362)	
Saturday		
a.m.		
9:00-11:00		Alexander Cap Victor Koslowsky Introduction/Theory/ Demonstration (Room 313)
10:00	Coffee Break (Room 313)	
p.m.		
11:00-1:00	Lunchtime	
1:00-4:00	Problem Solving Prepare Programs Hands-on (Room 319)	Problem Solving Prepare Programs Hands-on (Room 313)
2:30	Coffee Break (Room 313)	
2:45	Evaluation Forms-- Workshop/Hardware/Software	

APPENDIX F

CNC HARDWARE/SOFTWARE/WORKSHOP EVALUATION

APPENDIX F

CNC HARDWARE/SOFTWARE/WORKSHOP EVALUATION

1. Is this your first exposure to computer numerical control equipment?

2. What knowledge or items have you learned that can be used directly in your work?

Hardware

3. Do you see any shortcomings in the hardware? (i.e. safety, maintenance, ease of use, etc.)

4. Does this hardware adequately illustrate CNC principles?

Software

		Poor		Good		Superior
5.	Courseware content is	1	2	3	4	5
6.	Courseware instructional design is	1	2	3	4	5
7.	Courseware record keeping/management is	1	2	3	4	5
8.	Courseware ease of use is	1	2	3	4	5

Workshop

		Poor		Good		Excellent
9.	Were the materials you received useful?	1	2	3	4	5
10.	Were the opportunities for your professional development sufficient?	1	2	3	4	5

(over please)

		Poor		Good		Excellent
11.	Were the workshop location and facilities satisfactory?	1	2	3	4	5
12.	What is your overall satisfaction with the workshop?	1	2	3	4	5

Comments:

APPENDIX C

CERTIFICATE OF APPRECIATION

Certificate of Appreciation

THE UNIVERSITY OF MANITOBA

Recognition is hereby given to

_____

for service to

VOCATIONAL EDUCATION
PROVINCE OF MANITOBA

the ____ day of _____ 19 ___

DEAN OF EDUCATION	CHAIRMAN, CURRICULUM: MATHEMATICS AND NATURAL SCIENCES	PROFESSOR, VOCATIONAL EDUCATION

APPENDIX H

QUESTIONNAIRE INSTRUMENT

APPENDIX H

Code _____

QUESTIONNAIRE FOR BUSINESS/VOCATIONAL INDUSTRIAL TEACHERS IN MANITOBA TO DETERMINE THE FEASIBILITY OF ESTABLISHING AN INFORMATION DIRECTORY TO ASSIST IN UPDATING THEIR PROFESSIONAL/TECHNICAL SKILLS AND KNOWLEDGE

A. Professional Qualifications (Fill one or more of the following):

_____ 1. Business Education Special Certificate
_____ 2. Vocational Industrial Education Special Certificate
_____ 3. Bachelor of Pedagogy
_____ 4. Bachelor of Education (new - 4 year course)
_____ 5. Bachelor of Education (old - second degree)
_____ 6. Pre-Masters Completed
_____ 7. Other - Please specify: _____

B. Teaching Experience (All dates inclusive of 1980-81 school year):

1. Total number of years of teaching experience:

_____ 1-3 yrs; _____ 4-6 yrs; _____ 7-9 yrs; _____ 10-12 yrs;
_____ 13-15 yrs; _____ 16-18 yrs; _____ More than 18 yrs;

2. Years teaching when 50% or more of your teaching responsibilities were in business/vocational industrial education:

_____ 1-3 yrs; _____ 4-6 yrs; _____ 7-9 yrs; _____ 10-12 yrs;
_____ 13-15 yrs; _____ 16-18 yrs; _____ More than 18 yrs;

3. Did you have business/vocational industrial work experience before you entered the teacher education program? _____ yes; _____ no;

4. If yes, please indicate the type and length:

	MAJOR Type of Work	Length of Work Experience
Part-time after school:	_____	_____
Summer job:	_____	_____
Other:(please describe):	_____	_____
	_____	_____

5. Have you had business/vocational industrial work experience since you began teaching? _____ yes; _____ no;

6. If yes, please describe the type and length:

	MAJOR Type of Work	Length of Work Experience
Part-time after school:	_____	_____
Summer job:	_____	_____
Other:(please describe)	_____	_____
	_____	_____

7. If you have had work experience, is it your opinion that this experience has helped you become a more effective teacher?

_____ of great help; _____ of some help; _____ of no help.

Comments: _____

_____

8. In your opinion, should business/vocational industrial teachers have a professional obligation to continually update their skills and knowledge?

_____ yes; _____ undecided; _____ no.

Comments: _____

_____

9. If yes (#8 above), in your opinion, how often and what length of time should a business/vocational industrial teacher contribute towards updating his/her skills and knowledge?

Frequency:	For a period of:
_____ yearly;	_____ one week;
_____ every two years;	_____ two weeks;
_____ every three years;	_____ three weeks;
_____ every four years;	_____ four weeks;
_____ every five years;	_____ five weeks;
Other: (please describe)	Other: (please describe)
_____	_____
_____	_____

10. In your opinion, should professional/technical updating take place during: (you can mark more than one space)

_____ school in-service days;

_____ normal classroom time;

_____ July and August;

_____ Easter break;

_____ Christmas break;

_____ Educational leave (with guaranteed position/salary upon return);

Other: (please describe)_____

_____

11. In your opinion, should professional/technical updating be of a voluntary nature or mandatory to the retention of a teaching certificate for business/vocational industrial teachers?

_____ voluntary; _____ mandatory; _____ undecided;

Why? _____

_____

12. What types of incentives might be made available to teachers to encourage them to update their professional/technical skills and knowledge? (Please identify your choises as 1st, 2nd, 3rd, etc)

_____ work load reduction;

_____ credit towards a degree/certificate;

_____ tuition remission;

_____ an increase in salary;

_____ educational leave;

Other: (please describe) _____

_____

13. Please comment on the above incentives: _____

_____

14. Please read each of the following statements carefully and decide to what extent you AGREE or DISAGREE with it. Then state your opinion by CIRCLING ONE NUMBER in the column marked "Strongly Agree", "Agree", "No Opinion", "Disagree", or "Strongly Disagree".

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
A primary method of updating business/vocational industrial teachers should be by:					
a. industry and business-sponsored programs:	5	4	3	2	1
b. workshop/inservice experiences provided by teacher education institutions:	5	4	3	2	1
c. workshop/in-service experiences provided by Department of Education:	5	4	3	2	1
d. conferences/workshops sponsored by professional teacher societies such as MBETA and VITA:	5	4	3	2	1
e. a stated requirement for certificate/degree qualification:	5	4	3	2	1
f. personal initiative on the part of the business/ vocational industrial teacher:	5	4	3	2	1
g. Other (please describe): _____	5	4	3	2	1

THANK YOU FOR YOUR ASSISTANCE!

APPENDIX I

INSTRUCTIONS FOR PANEL OF EXPERTS

INSTRUCTIONS FOR PANEL OF EXPERTS

A SURVEY OF BUSINESS/VOCATIONAL INDUSTRIAL TEACHERS IN MANITOBA TO DETERMINE THEIR REACTIONS TO THE DEVELOPMENT AND IMPLEMENTATION OF A COMPUTERIZED INFORMATION DIRECTORY

NAME _____

TITLE _____

The purpose of this instruction page is to assist you in evaluating the attached material in a manner which will assist the researchers in improving the effectiveness of questionnaire instrument.

You have been selected to participate in this pilot exercise because of your background in business/vocational industrial education, your expertise in the discipline and your professional dedication.

1. Read through the cover letter and then respond to the questionnaire as you would if you were a business/vocational industrial teacher who received this instrument in the mail.

2. Record the number of minutes required for completion of the questionnaire.

3. React to, comment and edit the cover letter.

4. React to the questionnaire instrument: its format, the questions asked, the responses requested, etc. Do not hesitate to write your comments on the form itself.

Your assistance with this exercise is greatly appreciated.

Sincerely,

George H. J. Porozny

APPENDIX J

COVERING LETTER TO TEACHERS

APPENDIX J

THE UNIVERSITY OF MANITOBA

FACULTY OF EDUCATION
Department of Curriculum:
Mathematics and Natural Sciences

Winnipeg, Manitoba
Canada R3T 2N2

May 10, 1981

Dear Business/Vocational Industrial Teacher:

The Department of Curriculum: Mathematics and Natural Science in the Faculty of Education has undertaken a project to collect and analyze appropriate information that could be used in the development and implementation of an information directory. This directory could assist in the professional/technical updating of business/vocational industrial teachers in the Province of Manitoba.

Specifically, this study will:

a. Identify provincial business/industrial establishments that are willing to receive business/vocational industrial teachers who are interested in professional updating;

b. Determine the willingness of business/vocational industrial teachers in Manitoba to update their professional skills and knowledge;

c. Examine the feasability of establishing a computerized information directory that would match interested business/vocational industrial teachers with business and industrial establishments willing to provide internship sites where this updating could take place.

Enclosed is a questionnaire instrument that was developed with the cooperation of graduate students in the Seminar in Business Education class (81.514). It requests teacher opinions and practices about professional updating of skills and knowledge.

Your response to this questionnaire will contribute to the effective completion of this study, the results of which will be published in the MBETA and VITA professional journals.

Please note that the coding number appearing on page 1 of the questionnaire instrument will be used for research purposes only, to identify returns and facilitate followup of participants. Individual respondents will not be identified in the study.

Thank you for your assistance with this study.

Sincerely,

George H. J. Porozny

George H. J. Porozny
Associate Professor of Education

APPENDIX K

COMMENTS FROM TEACHERS ABOUT THE EFFECTIVENESS OF PRE- AND/OR POST-TRAINING WORK EXPERIENCE

APPENDIX K

Comments from Business Education teachers and Vocational/Industrial teachers about the effectiveness of pre- and/or post-training work experience.

Q7 Bus. Ed.

Makes teaching more relevant, realistic and possibly interesting.

Have a better understanding of what the business world is all about - textbooks are too idealistic and can call on a wide range of expertise.

How else can a teacher evaluate the job requirements and adjust the learning situation?

It is impossible to teach the aspects of a business office effectively from a text. First hand information and knowledge is very important.

It has helped me to gather knowledge which are often not reflected in textbooks.

It would most definitely help as changes in business are constantly being made.

At least two years of business experience (full time, not part time or summer jobs) should be a prerequisite for all business education teachers.

Very practical knowledge gained while in the office.

Should be a requirement.

Updates business practices.

The practical application of course material leads to a greater understanding of problems.

Work experience is in touch with reality.,

To keep abreast with current needs and changes in the business world.

Of some help because often work experience is very specialized.

Can teach for actual situation.

Because of my work experience I can give real life examples to my typewriting classes.

My work experience has aided me in becoming more aware of other people and better able to cope with daily stresses.

Definitely you have to know what's going on in business to be able to teach it. Business changes all the time and you have to keep yourself updated.

Q 7 Bus. Ed. cont'd.

How can a business teacher relate or convey concepts if he/she has no real knowledge of the work world?

Every business teacher must have had related work experience - it's simply essential.

It is important to have work experience so that you can become aware of what job entry skills your students must have.

At the very least, it gave me confidence and "work-sense."

We cannot continue to teach theory without knowing how the theory is applied.

Q 7 Voc. Ed.

One should not teach an area unless one knows what the industry does.

Normally this work is limited to equipment installed in the past.

This is a very important aspect of teaching and should be done every year.

My day to day work exposes me to conditions very close to that which industry can offer.

I could not teach in my area without the work experience I had.

How else can a teacher stay up to date?

This question should not have to be asked.

Without work experience I would not have been able to teach food services.

Without it I would not be able to teach power mechanics.

Knowing that one is very competent in one's field gives any teacher much more confidence.

Not a more effective teacher but hopefully it has helped me just remain effective - keep in stride.

It keeps me in touch.

New equipment, fast changes in the industry - keeps me up.

It is very difficult to do two jobs well. You tire physically and mentally very quickly.

Q 7 Voc. Ed. cont'd.

Keep up with the trade.

Definitely yes.

The greatest asset to teaching was the 16 years I operated my own garage and service station.

Work is directly related to my teaching major.

In my opinion, vocational-industrial teachers must have the minimum of 6 years of trade experience, preferably 10 years.

Because I am only working in my small community area as a result I do not get to see or do anything different in my area of expertise.

It helps to keep up my personal expertise in my discipline.

Any experience acquired in life is probably a help in teaching.

It jogs your memory.

It would be impossible to effectively teach commercial art without considerable work experience.

The summer months are not quite long enough to obtain a full understanding and "hands on experience".

APPENDIX L

COMMENTS FROM TEACHERS ABOUT THEIR PROFESSIONAL OBLIGATION TO CONTINUALLY UPDATE THEIR SKILLS AND KNOWLEDGE

APPENDIX L

Comments from Business Education and Vocational/Industrial Education teachers about their professional obligation to continually update their skills and knowledge.

Q 8 Bus. Ed.

Periodically and within reason.

The business community is undergoing constant change. Teachers should be on top of the situation.

Thanks to my work experience my skills and knowledge are better now and more up to date than they were 5 years ago.

Schools cannot afford the equipment presently used in the business world - thus schools should consider sending teachers out to up-date themselves.

If working in the work force is considered.

It is imperative that we read and participate in professional development activities, i.e., seminars, workshops, etc.

But this does not necessarily require courses and/or work. Reading relevant literature, visits, etc., can do the job.

In my area only the basics of business math is taught and it is not necessary to be experienced in the field to teach this.

However, not be working all summer. There already is too much teacher burnout. Sabbatical leave would be an effective way of doing this.

Any teacher has this obligation.

Absolutely!!

It is useless to continue teaching methods used 20 years ago. One needs to get the "feel" of the office to teach more effectively or "putting yourself in their shoes."

Depends what you mean by "update".

Especially in the area of word processing.

Teaching Canadian Law 302 requires constant updating of program material due to the changing statute laws and needs of the students.

The office environment is continually changing.

To become aware that schools have to change with the times - to keep up with current trends.

Q 8 Bus. Ed. cont'd.

This applies to all teachers.

What about "academic" teachers who teach business/vocational subjects?

The business world is changing so rapidly it is important that we as teachers keep up with this change.

The same professional obligation that "regular" teachers have should apply to "us".

I feel that it is necessary to update knowledge and skills but it is almost impossible to do so when you have to work full time.

Not always more education only.

This is important in order for business teachers to know what is expected of their students.

Yes, if supported by employer financially and by job protection.

I do believe that this is being done through in-service and meetings.

At the rate of technological change, workers roles, etc, we must know what we're training for!

Because of the changes taking place in the business world, how can a business teacher continue without updating themselves.

Q 8 Voc/Ind.

Not always easy to do.

As opportunity presents itself - during school year, not July or August.

Most definitely.

I believe most Vocational/Indusrial teachers do keep in contact with industry to keep themselves updated.

If they accept that they are responsible for making themselves what they are, the updating will happen daily on the job - not formalized.

Preferably credit should be given to vocational/industrial teachers who upgrade themselves during summer months.

Has to be done continually.

Provided this is integrated into maintenance of seniority and job protection if any extended period of time is required to effectively update oneself.

At least every five years in field for short 6 - 12 months.

The ways of doing this are limited but there are always some available.

It seems obvious that to do otherwise would lead to the deterioration of one's knowledge of his/her subject.

It is important to keep current but industry and the educational system should cooperate in this venture.

In the electrical trade the code changes continually and unless a teacher does some actual wiring he cannot keep up to date.

To keep abreast of technical changes a teacher should get back in the work field to keep ahead.

To keep up with the latest methods - yes.

In order to be a professional, continual updating is required.

Changing technology should convince teachers to update and keep up with times.

Changes in industry advance very quickly and I consider my profession to be that of a cook.

Skills especially in welding to effectively demonstrate proper welding procedure. In a rapidly changing industrial field knowledge must be continually updated.

We do become rusty and outdated simply because our jobs keep us confined.

We as vocational educators must keep up and teach current, ongoing concepts, not material that is twenty years old.

With the changing of business and vocational attitudes (trends) it is a must to be kept in pace with these changes.

I do not see why these areas are singled out. We are as professional as academic subject teachers and capable of making our own decisions along these lines. Are the academics also going to be obliged to upgrade their knowledge in their particular disciplines?

The field is changing rapidly. Without work in it a person tends to forget changes quickly.

Only when necessary.

All the vocational teachers that I know personally already do so.

In some areas, subjects, techniques could become outdated.

The technological changes occurring today make past experience obsolete within 5 years.

APPENDIX M

TEACHER COMMENTS ABOUT THE FREQUENCY AND LENGTH OF TIME TEACHERS SHOULD CONTRIBUTE TO UPDATING OF THEIR SKILLS AND KNOWLEDGE

APPENDIX M

Comments from Business Education and Vocational/Industrial teachers about the frequency and length of time a teacher should contribute to updating his/her skills and knowledge.

Q 9 Bus. Ed.

Depends on what the area is.

Flexible - depends on individual's qualifications and background.

As often as possible - as the opportunity presents.

Short, one day in-services and major exposure every five years.

Depends on course being taught.

I don't think a teacher should contribute his/her time. It should be part of the contract during the school year or perhaps given an extra credit towards a degree if taken during the summer holidays.

Depends upon the type of up-dating - i.e., professional or work experience.

As opportunity arises.

Whatever time is needed to keep abreast of changing times.

Depends upon the subject - i.e., data processing knowledge should be updated yearly.

Varies considerably, some teachers keep themselves fairly well up-dated through periodicals and businesses - others need courses regularly.

I feel this can be done through conferences, work shops and reading. Frequency does not apply. It is regular and continuous.

As they see the need, and as needed.

I am not sure at this time as I would need to know the nature of "updating". It would vary from discipline to discipline.

In-service days would be most worthwhile, or an in-service week.

This should be an on-going process, e.g., through community involvement (Chamber of Commerce).

Depends on the person - I can't generalize this.

Depends on your area of study.

'When' is the problem - depends on field of teaching.

Q-9 Bus. Ed. cont'd.

Whatever it takes, as long as it takes. Remember the rural teacher has special considerations.

If possible even one year leave with the position being guaranteed.

As changes required (set by Department of Education) as long as needed to update his/her skills and knowledge.

Long enough to benefit from it.

Perhaps one year sabbatical to update.

Periodically, I feel this is an excellent idea.

A full semester or year of work education (experience).

I believe business teachers should be constantly aware of current innovations in the business world and should therefore update his skills and knowledge accordingly.

Whenever programs are offered that are valuable and of importance. Time is not important but quality of program is of the essence.

Q 9 Voc/Ind.

If new systems, techniques, etc. become prominent in a given area, the teachers should have the opportunity to avail himself of updating whenever possible.

I see value in periods shorter than one week.

A vocational teacher should be updating daily.

Length of time necessary for whatever it is that you are updating.

For a period of ten months.

Every five years, for one year as in some U.S. states.

Frequency and period would depend upon changes which occur in particular industry continually.

Every five years, for one year (i.e., 10 months).

Periods of 6 to 12 months are required.

One year periods best - every five years or so.

Leave it to the teacher: continually, as the opportunity arises.

Q 9 Voc/Ind.

Continuously.

Frequency and period with pay, of course, plus expenses.

Continuously by reading, attending conventions, seminars, meeting people in trade.

Teachers should plug into the workshops offered by business/industry every year. Length should vary according to the individual needs, not less than 4 weeks.

Constantly, in spare time.

Contract to wire a residence once a year would be very beneficial.

This can also be done by keeping in contact with the manufacturers and dealers.

Yearly in more depth at in-service days.

Every 6-7 years, one full year in industry.

There could be a number of companies solicited for cooperation and the teacher would spend a few months at each company that specialized in different areas of the trade for the ten months of his work year anywhere in Canada or abroad.

As changes take place in the market place; what ever time is required to make the instructor fully conversant with these changes.

Much can be learned from continually studying available literature.

APPENDIX N

COMMENTS FROM TEACHERS WHEN ASKED TO IDENTIFY PERIODS DURING THE YEAR WHEN PROFESSIONAL/TECHNICAL UPDATING SHOULD TAKE PLACE

APPENDIX N

Comments from Business Education and Vocational/Industrial teachers when asked to identify periods during the year when professional/ technical updating should take place.

Q 10 Bus. Ed.

All of the above - to suit the individual's special needs.

You must be mad to suggest Easter break and Christmas break!!

Teachers cannot expect the division to provide or pay for their updating (choice #2).

Often in-services are a waste of time because the speakers don't provide practical suggestions to make the teachers more effective in the classroom.
As it can be arranged - probably school vacation time or evenings.

It could be a combination of B and C (Easter break and Christmas break) on a yearly or biannually basis.

Summer school credits should be offered in Manitoba for work experience during July and August.

Cannot afford classroom time and in-service days are too sparse for any real good.

Inservice days where various changes are highlighted and new approaches explored.

Updating could be done during evenings.

Many cannot afford to take time off and during holidays is often inconvenience as often the teacher would like to spend time with family.

Easter BREAK and Christmas BREAK mean just that - they are breaks for teachers, not for updating.

Updating could be done on Saturday too.

Just by reading and teaching in class, a teacher can get a minimal satisfaction of updating him or herself.

Since this is an educational survey and I don't believe non-business employed educators know more than teachers except in a theoretical way - what is the use ?

This would be the ideal (normal classroom time) but most school boards would object; (mine would anyways).

There is an obligation on both the teacher and the employer.

Q 10 Bus. Ed. cont'd.

I recognize the need but dislike the idea of mandatory enforcement.

It is necessary if we are to teach our students relevant and current techniques.

The truly dedicated teacher does not have to be forced nor does a doctor or lawyer.

But with great incentive to do so, such as a credit in a university program.

No one has determined what "update" means and also value of some types of experience.

So as to prevent a set of unrealistic expectations being formulated into formal regulations. These teachers should be encouraged to adopt a voluntary goal-setting program to update their expertise.

Timetabling not always possible, due to even something as simple as geographic location.

If we are to teach "business" then we must be up-to-date to keep our teaching relevant.

An individual's interests change. Teachers that are not business education teachers do teach business education throughout Manitoba.

Teaching is a profession, therefore, teachers should want to update their skills and knowledge.

Although this would be difficult to enforce, it would ensure that the teachers did go back to the work world (other than school) and up-grade their skills.

Other side, many find it easier not to take the course and never get updated.

In our field, where we are preparing students for employment, we should keep up with industry trends and practices.

Do you have to ask? We are only human. If voluntary, many will just not do it!

I am sure in a majority of cases in rural areas it is difficult to update your knowledge. This is one of the disadvantages of living in rural areas.

For teachers like myself, voluntary is best; however, some teachers need a good boot (KITA) to get them moving. Therefore, if left up to the individual, a good number may not try to update themselves.

Q 10 Bus. Ed. cont'd.

The professional obligation must be left up to each individual teacher.

We tend to get in a rut and are also unaware of changes taking place in the world of business.

Mandatory experience could create some hardships for teachers in small rural communities and the benefits may be questionable due to poor facilities or antiquated methods.

If an effort is not "required" many teachers would not move. An effort. A tendency to fall into routine teaching methods is evident in some areas.

Most teachers attend conferences, workshops, in-services and feel this gives them enough updating.

Mandatory if supported by employer financially and by job protection.

Mandatory because many teachers would not spend the time and effort to update their skills and knowledge and I don't feel that is fair to our students.

In a free society (?), anything mandatory is not as acceptable so a choice is important.

Teachers sometimes get in a rut and because of their salary cannot afford to change to another work environment. If mandatory, and if salary is not reduced, work experience or other updating methods would be both better received and appreciated.

This is a matter of professional ethics.

Because trends in automation are moving so quickly.

Q 10 Voc/Ind.

The month of June is the best time to upgrade yourself.

Daily on the job - not formalized. I oppose most in-services - they end up "re-inventing the wheel."

Courses offered do not upgrade vocational skills - in most cases self-initiated learning less expensive and more effective.

Work it on a point system to include professional conferences, return to industry, etc.

Not during normal classroom time or in-service days.

Educational leave is the best, with guaranteed position and salary upon return.

Q 10 Voc/Ind. cont'd

July, August, Easter and Christmas break, but on one's own time and incentive.

In the electrical field some areas of instruction are not available in Manitoba - in motor and generator theory - during summer months.

Whenever it is most suitable for all parties involved.

Professional in-services put on by the people in the trades or business.

Education leave for instructors to update knowledge and skills at a vocational institution offering technological courses - suggest a 2-3 month period every 3 years.

This should be done by having a floating instructor who would cover for the one in the field on a provincial base.

Whenever time and instructional material or opportunities are available.

Optional sabbatical every 3-5 years for upgrading.

APPENDIX O

TEACHER COMMENTS ABOUT WHETHER PROFESSIONAL/TECHNICAL UPDATING SHOULD BE OF A VOLUNTARY OR MANDATORY NATURE TO RETENTION OF A TEACHING CERTIFICATE

APPENDIX O

Comments from Business Education and Vocational/Industrial teachers about whether professional/technical updating should be of a voluntary or mandatory nature to the retention of a teaching certificate for business/vocational/industrial teachers.

Q 11 Bus. Ed.

If we are professionals we need to foster a professional attitude amongst our ranks.

The more you volunteer for, the better are your chances of maintaining a job.

"Dumb question!!"

Otherwise we are teaching what "used to" happen not what is currently taking place.

Everyone's goals in life are different. Everyone's method of learning is different. Some teachers may be upgrading all the time.

Depends on regulations; if as in #10, then mandatory - possibly start with voluntary.

Mandatory may present hardships and it is not like a pilot's license, but it should be encouraged and made fairly easy to initiate.

Because we are professionals we can be relied on to upgrade ourselves through a sense of professional responsibility.

Voluntary for the first while; mandatory every 10 years.

Teachers tend to neglect updating programs. The proposed penalty is much too harsh, however.

Professional updating should only be done on a voluntary basis to be of any worth to the system.

If school boards are willing to pay for the cost of updating, then it can be mandatory.

MTS would certainly oppose the "Mandatory" clause.

It depends on what one is teaching - Electronics, Office Skills and Business Machines are constantly changing.

Mandatory because many people are sitting in comfortable jobs making good salaries and won't put themselves out in order to update themselves. Many business education teachers don't even have degrees.

It is not necessary for other areas in education to do this.

Q 11 Bus. Ed. cont'd.

It would keep ideas fresh and objectives in line with demand in the business world.

A conscientious teacher will always be updating his/her course information.

Updating is excellent but not at the expense of antagonizing teachers.

A "Professional" will update voluntarily. Mandatory updating imposes time restrictions. Specific days or weeks would have to be set aside, which I would resent.

By making it mandatory, you are trying to add more stress on the teacher. Teachers already have enough stress in the classroom. One must also remember that teachers have a family life too. It is pertinent to mention the divorce rate is quite high among teachers.

As a professional, we should realize our responsibilities and take the necessary steps to achieve the necessary results.

If mandatory, you remove the basic ingredients: willingness and freedom of choice - could become too rigid and inflexible.

It should be the individual's decision.

So all business education teachers would stay abreast of changes in business world.

Upgrading professional courses are not compulsory. A teacher can learn a great deal from a course in his field at the university. Many teachers do not bother upgrading their initial skills and knowledge. Nor would they bother working in an office to upgrade their training.

With speed at which business changes, someone in an office 5-10 years ago can soon be out of touch.

Teachers should not be penalized if they cannot update their business skills some summers.

Attitude is all-important and the compulsory aspect would destroy the effect.

Any conscientious teacher remains updated on his/her own. It is absolutely ridiculous to think that you can force a teacher to take courses. Courses will not make a poor teacher better.

Until some valid updating system is available, making it mandatory is improper.

According to the needs of the individual.

Q 11 Bus. Ed. cont'd.

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A conscientious teacher will always be updating his/her course information.

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Until some valid updating system is available, making it mandatory is improper.

According to the needs of the individual.

Depending on the personality of the instructor and his ability.

Too many can get into a "closed shop", do little or nothing to keep themselves up-to-date and retain their salary and position. In other words, they take advantage of a system.

Provided reasonable inducement to update existed, a voluntary system would work and permit teachers to select convenient dates. Mandatory updating could impose hardships or be a means of whittling down holiday periods, etc., by school boards.

Voluntary updating would show a teacher's interest in their work and would put the responsibility for updating on the teacher.

MANDATORY assumes that all teachers are equally ignorant ... or that you can't know very much unless you first have an in-service on a particular area of education.

Some areas may not experience the radical technological changes that others might. I feel a true professional will always attempt to stay as updated as possible in his/her occupational area.

Motivation should come from a professional desire to advance skills and related knowledge. Force seems to work in the opposite direction.

To keep pace with developments.

Mandatory would force Department of Education and school boards to get involved with upgrading the quality of education.

Some professions require more updating than others.

We shouldn't call ourselves professional if updating is not made mandatory.

I don't believe you can make teachers go to school during summer break or fewer teachers will become available.

Who would be the judge of whether your degree of updating was of a satisfactory degree for the retention of a teaching certificate?

Voluntary because there is no valid measurement - compulsory courses do not make a journeyman more efficient.

Forced updating accomplishes nothing.

I think most teachers will be self-motivated to update themselves under the circumstances described above (education leave, guaranteed position salary; during updating period).

Mandatory because of the rapid changes of technology in most of our industries in today's society.

Mandatory, why not?

If the teacher does this under compulsion, he/she will learn at great cost to the students. If compulsion is needed this teacher should find another occupation.

I have always had the impression that a teacher must be knowledgeable in his/her subject matter in order to retain one's job.

You can lead a horse to water but you can't make him drink. Only he knows if he is thirsty.

Mandatory, because that is about the only way all of us would take professional updating.

Mandatory, because many teachers that I watch become so outdated and stagnant that they lose interest and become boring.

Particular trades teachers will have a hard time finding substitute teachers.

Mandatory, because teachers lose touch with what is taking place in the work-a-day world due to the advancement of technology.

Voluntary. Why? "Guess"

Most teachers are aware of the need for updating and are themselves demanding time and workshops so already the response is there on a voluntary basis.

It should be mandatory for all teachers not just vocational. Working in a protected or isolated environment as we do we need more exposure to the 'outside'.

Mandatory, because it is too easy to let things ride and the resulting teaching must reflect this attitude and ability.

Some teachers feel that they have not enough teaching years left to spend their summer holidays working.

Force does not accomplish good will.

If a person wants to stay in the teaching profession he/she will update on a voluntary basis.

Mandatory, because to know all about the fast technological changes that take place.

It may not be possible to obtain the required training in your own geographic location and it may be too expensive to relocate.

Mandatory, because it insures a constant upgrading.

In vocational area many areas to cover - each should have a choice.

Some school boards may be reluctant to allow education leave. Not all teachers would have the course accessible to them because of distance, time offered, etc.

Mandatory, is most effective way of upgrading in industry. Also allows vocational/business teachers to stay in touch with technical advances.

If industrial education is to keep pace with changes in technology, there must be mandatory updating. If voluntary, instruction would certainly be fragmented.

Mandatory - the marketplace/workplace is changing so rapidly you must become aware of changes.

Because no one can be forced into anything. One must want to do it for most benefit derived.

Voluntary - as a certified technician I don't believe that I must prove my abilities time and time again.

If held on a voluntary basis I feel that you will always gain the most from both sides.

If people are admitted to teacher education who have sufficient experience in their areas (about 10 years after apprenticing) not as currently proposed 6 years inclusive, they would be able to pick up new information easily on their own volition due to their background knowledge.

You cannot force it on people but if individuals do not show any indication of updating themselves, then action should be taken.

Voluntary - because only the person himself can decide if updating is required.

Because changes in trades vary so greatly that it would be difficult to implement mandatory updating of all trades. Any person who doesn't keep up with current trends and practices should not be teaching. The Department of Education seems very inept at selecting worthwhile material for teachers to study. I am certain that they have very little knowledge of the field that I have devoted most of my life to.

Technical changes make past experience obsolete within 5 years. Besides, new experiences will allow for improved student learning situations.

APPENDIX P

COMMENTS FROM TEACHERS ABOUT THE TYPES OF INCENTIVES THAT MIGHT BE MADE AVAILABLE TO ENCOURAGE TEACHERS TO UPDATE THEIR PROFESSIONAL/TECHNICAL SKILLS AND KNOWLEDGE

APPENDIX P

Comments from teachers about the types of incentives that might be made available to encourage teachers to update their professional/technical skills and knowledge.

Q 13 Bus. Ed.

If work experience becomes mandatory, as I believe it should, the only "incentive" would be a satisfactory assessment of the short term employer.

Some incentives should be given for courses taken while working toward degrees.

Not necessary for short term: 1 or 2 day conferences or tours.

All these incentives have merit.

The professional's pride to update skills and knowledge is a more realistic incentive.

All are good, but educational leave with living allowance is best.

Education leave would appear to be the simplest to implement.

Salary incentives are already offered. Expiration of the license to teach would be most effective.

Most people would like a higher increase for effort done to further their education regardless whether its through their work force or university.

A true professional should not need incentives.

All of the above assume that the experience will firstly be relevant and of practical application.

The work load for myself and for many, I am certain, prevents updating skills and knowledge in terms of taking courses.

Too many teachers still teaching business education without a degree.

Incentives should not be important - updating is part of the job.

Credit should be given for community work - I served for six years as a councillor for the Town of Selkirk.

Teachers who have a sincere desire to be effective and upgrade themselves would look towards professional credit rather than monetary reward.

Salary is not always the most important incentive.

In private enterprise updating of skills usually results in job promotion and recognition through an increase in salary and/or job classification. Why not education?

Many teachers work because they have to. Incentives would have to be high. Pressure of teaching necessitates holidays during summer. Especially marking load for typewriting and office practice teachers who are dedicated and check most student work.

Everyone works better when there is value or recognition attached.

Educational leave with pay would help to streamline teachers into improving and updating their respective interested skills.

Will an increase in salary with the present funding system be an incentive?

More people would happily update their skills if they felt they were getting some form of recognition. The above are fine.

Mandatory updating requires no incentive - do it or give up your certificate.

These incentives do not benefit teachers in rural areas where it is impossible to attend university. I find it almost impossible to attain any extra knowledge because I live in a rural area.

It seems to delve thoroughly into an area, time must be allowed. In small centres this experience is not easily found, it may even mean driving or relocating temporarily.

I believe the leave would enable a person to come back refreshed and armed with new ideas.

I would like to see 3 weeks of work experience granted 3 credit hours.

An increase in salary because money seems to be a top priority for most people nowadays.

Education leave would be by far the most effective.

Most teachers have other responsibilities, therefore time can become an important factor so educational leave is important.

If a person is using these courses, even on a half-time basis in teaching it would be an asset to have them contribute towards a certificate in business education if they do not have one.

There needs to be some type of recognition, i.e. certificate or monitary reward.

Besides the obvious rewards of knowledge, it is good to receive recognition for one's efforts.

University courses are not geared to business education and the extras are difficult to relate or make use of - also difficult for country teachers.

Work load reduction not necessary for short term work assignment.

Tuition remission assumes a course is being taken.

Proof of further degrees increases one's salary.

The most important is the satisfaction of knowing their information is relevant and up-to-date.

More courses related to business education should be offered at the university.

All of the above are important, but time is the most important.

Eductional leave with some pay (i.e., 2/3) earning a credit towards a degree which will change one's classification thus increasing the salary.

The best incentive would be cancellation of teaching certificate.

None - professionally its our responsibility!

From my own experience the younger business education teachers and older ones are using a credit towards a degree/certificate which inevitably leads to an increase in salary.

The only incentive they should need is to be the best business education teacher they can be.

Education leave - days off without loss of pay for personal in-service, visitations, etc.

Payment for out of pocket expenses - travel, meals, hotel is first.

Work load reduction is impossible as I am the only business teacher.

With time and energy available, it would be enjoyable to update skills and knowledge.

Q 13 Voc/Ed.

Credit towards a degree/certificate does not mean a thing. No incentive. Does not buy anything - money does! An increase in salary would be the real incentive for more teachers to participate in updating.

Education leave - time should be allotted for updating.

Q 13 Voc/Ed.

Updating is very important in vocational education field.

Credit towards degree - I think updating which pertains directly to my area of teaching should be credited to me in some way.

Ideally, teachers should get released time, at full salary, substitutes provided, expenses paid, academic credits and credit on certification and grant scales.

A bribe should not have to be offered to encourage a teacher to upgrade himself.

Credit, tuition remission and salary are the best incentives.

Where it can be shown that updating squares with the job description the only and least expensive incentive would be an assurance of a continued salary.

Education leave and retention of teaching position after professional development.

Education leave with pay is essential because of family, financial commitments. Please no more low quality program - we can read!

Credit towards degree because it makes more sense to work in upgrading your teaching area than to take courses which have no relevance to what you teach.

Education leave and credit towards degree are the only incentives; increase in sslary would follow.

Work load reduction? You're kidding!! Increase in salary not possible when at maximum, yet these teachers might be the ones who need updating the most.

Education leave with full pay. Teachers who update themselves should be issued a certificate upon completion of training period. Participating industry should reimburse teacher's school divisions (perhaps 75% of teacher's salary).

Important to be paid a salary while you upgrade your knowledge.

More vocational teachers ith degrees would open the door to greater participation by these teachers in decisions affecting industrial education in Manitoba.

In my opinion, when a teacher has to be rewarded to remain current in his field, that particular teacher should perhaps retire.

Salaries for teaching are far less than most associated trades and a greater incentive is required.

Too many of the credits are given for academic training, leaving no room for trade, updating or credit.

One's effort should be recognized in a positive manner.

Credit towards a degree means almost the same as a pay increase.

Method of incentive not as important as a meaningful and relevant updating program.

Where the area of one's need is not provided in the Province, it would help if the cost to go to the U.S. or another province were compensated. Many teachers would not bother to upgrade unless under pressure and financial assistance would help in any case.

You cannot expect a teacher to go back to work experience on his own salary.

The incentives should be self-motivated.

The main incentive must come from oneself. I do believe a credit towards a certificate should be sufficient.

If one takes an extra load of knowledge, one should be paid.

Education leave, but school boards must be agreeable to allow education leave.

Time and money to get updated.

Education leave gives time to go into industry; the credit towards a degree will add to salary.

Can all the university crap and get serious about technological training. If you let the pigs decide it, they will put you in the stye. Get on with an industrial strategy that includes vocational education.

Good teachers will update the above skills because of intrinsic values and desires to help their students. A teacher who requires gifts and bonuses to do his/her job properly should look for other employment.

Without credit towards a degree and educational leave, few people will upgrade.

The Department of Education seems very inept at selecting worthwhile material for teachers to study. I'm certain that they have very little knowledge of the field that I have devoted most of my life to.

Work in their own field is more important to a vocational teacher than most of the university courses available.

If there is no increase in salary, few people would be interested.

A teacher should be encouraged financially, not penalized as with the present system.

General Comments

Industry and business sponsored seminars showing new methods and equipment - let industry tell the teachers what they want out of education.

Let's make the teacher more responsible, not less!!

More cooperation with academic teachers most urgent in order to upgrade reading and writing skills.

Anything that would bring about more communication between industry and school.

Anyone coming out of industry should know how and where to locate their own establishments. To establish a computerized information directory would be a waste of time.

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